# Rosetta Genomics Ltd. (ROSG)

## 20-F

Annual and transition report of foreign private issuers pursuant to sections 13 or 15(d)
Filed on 04/02/2012
Filed Period 12/31/2011

As filed with the Securities and Exchange Commission on April 2, 2012

**UNITED STATES**
**SECURITIES AND EXCHANGE COMMISSION**
**Washington, D.C. 20549**

# FORM 20-F
**(Mark One)**

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR (g) OF THE SECURITIES EXCHANGE ACT OF 1934

**OR**

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

**For the fiscal year ended December 31, 2011**

**OR**

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

**OR**

£ SHELL COMPANY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

**Date of event requiring this shell company report . . . . . .**

**Commission file number: 001-33042**

**ROSETTA GENOMICS LTD.**
**(Exact name of Registrant as specified in its charter)**

**Not Applicable**
**(Translation of Registrant's Name into English)**

**Israel**
**(Jurisdiction of incorporation or organization)**

**10 Plaut Street, Science Park**
**Rehovot 76706, Israel**
**(Address of principal executive offices)**

**Kenneth A. Berlin, CEO and President**
**3711 Market St., Suite 740**
**Philadelphia, PA, 19104, USA**
**Tel: 215-382-9000**
**Fax: 215-382-0815**
**(Name, Telephone, E-mail and or Facsimile number and Address of Company Contact Person)**

**Securities registered or to be registered pursuant to Section 12(b) of the Act:**

| Title of each class | Name of each exchange on which registered |
|---|---|
| Ordinary shares, par value NIS 0.04 per share | The NASDAQ Stock Market LLC |

**Securities registered or to be registered pursuant to Section 12(g) of the Act. None**
**Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act. None**

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the Annual Report: As of December 31, 2011, the issuer had 10,518,487 ordinary shares outstanding and no preferred shares outstanding.

Indicate by check mark if the registrant is a well known seasoned issuer, as defined in Rule 405 of the Securities Act.
Yes ☐ No ☒

If this report is an annual or transition report, indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or (15)(d) of the Securities Exchange Act of 1934. Yes ☐ No ☒

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter periods that the registrant was required to file such reports), and (2) has been subject to such reporting requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the registrant has submitted electronically and posted on its corporate Web site, if any, every Interactive Data File required to be submitted and posted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit and post such files). Yes ⊙ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, or a non-accelerated filer. See definition of "accelerated filer and large accelerated filer" in Rule 12b-2 of the Exchange Act. (Check one):
Large Accelerated Filer ☐ Accelerated Filer ☐ Non-Accelerated Filer ☒

Indicate by check mark which basis of accounting the registrant has used to prepare the financial statements included in this filing:
☒ U.S. GAAP

☐ International Financial Reporting Standards as issued by the International Accounting Standards Board
☐ Other

If "Other" has been checked in response to the previous question, indicate by check mark which financial statement item the registrant has elected to follow.Item 17 ☐ Item 18 ☐

If this is an annual report, indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

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## INTRODUCTION

As used in this Annual Report on Form 20-F (hereinafter referred to as this "Annual Report"), unless the context requires otherwise, references to "we", "our", "us", "Rosetta" or the "Company" are references to Rosetta Genomics Ltd., a company organized under the laws of the State of Israel, and its subsidiaries.

Our consolidated financial statements have been prepared in accordance with United States generally accepted accounting principles, or U.S. GAAP. Except as otherwise specified, financial information is presented in U.S. dollars. All references in this Annual Report to "U.S. dollars," "dollars" or "$" are to United States dollars and all references in this Annual Report to "NIS" or "shekels" are to New Israeli Shekels.

All information in this Annual Report on Form 20-F relating to shares or price per share reflect the 1-for-4 reverse stock split effected by Rosetta on July 6, 2011.

## FORWARD-LOOKING STATEMENTS

This Annual Report contains forward-looking statements. These forward-looking statements include, in particular, statements about our plans, strategies and prospects and may be identified by terminology such as "may," "will," "should," "expect," "scheduled," "plan," "intend," "anticipate," "believe," "estimate," "aim," "potential," or "continue" or the negative of those terms or other comparable terminology. These forward-looking statements are subject to risks, uncertainties and assumptions about us. Although we believe that our plans, intentions and expectations are reasonable, we may not achieve our plans, intentions or expectations.

Important factors that could cause actual results to differ materially from the forward-looking statements we make in this Annual Report are set forth in "Item 3. Key Information - D. Risk Factors." All forward-looking statements attributable to us or persons acting on our behalf are expressly qualified in their entirety by the cautionary statements in "Risk Factors," in which we have disclosed the material risks related to our business. These forward-looking statements involve risks and uncertainties, and the cautionary statements identify important factors that could cause actual results to differ materially from those predicted in any forward-looking statements. We undertake no obligation to update any of the forward-looking statements after the date of this Annual Report to conform those statements to reflect the occurrence of unanticipated events, except as required by applicable law.

You should read this Annual Report and the documents that we reference in this Annual Report and have filed as exhibits to this Annual Report, that we have filed with the Securities and Exchange Commission (the "SEC"), completely and with the understanding that our actual future results, levels of activity, performance and achievements may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

**PART I**

**ITEM 1. IDENTITY OF DIRECTORS, SENIOR MANAGEMENT AND ADVISERS**

Not Applicable.

**ITEM 2. OFFER STATISTICS AND EXPECTED TIMETABLE**

Not Applicable.

**ITEM 3. KEY INFORMATION**

***A. SELECTED CONSOLIDATED FINANCIAL DATA***

We have prepared our historical consolidated financial statements in accordance with generally accepted accounting principles in the United States (U.S. GAAP). The following financial data for the years ended December 31, 2009, 2010 and 2011, and as of December 31, 2010 and 2011 have been derived from our audited financial statements which are included elsewhere in this Annual Report. The following financial data for the years ended December 31, 2007 and 2008 and as of December 31, 2007, 2008 and 2009 have been derived from our audited financial statements which are not included in this Annual Report. In July 2008, through our wholly owned subsidiary Rosetta Genomics Inc., we purchased Parkway Clinical Laboratories, Inc., a privately held Pennsylvania corporation owning a CLIA-certified laboratory. Parkway remained an indirect wholly owned subsidiary until we sold it in May 2009. Operating results for Parkway have been classified as discontinued operations for all presented periods. On February 4, 2010, we established Rosetta Green Ltd. ("Rosetta Green") as a controlled subsidiary. As of December 31, 2010, we owned approximately 76.2% of the outstanding ordinary shares of Rosetta Green, therefore, Rosetta Green results were consolidated in 2010. In December 2011, we sold our complete ownership interest in Rosetta Green, which represented approximately 50.03% of the outstanding ordinary shares of Rosetta Green. Information relating to Rosetta Green is incorporated into the Consolidated Statement of Income at item net loss from discontinued operations. You should read this information in conjunction with our consolidated financial statements, including the related notes, and "Item 5. Operating and Financial Review and Prospects" included elsewhere in this Annual Report. Our historical results for any prior period are not necessarily indicative of results to be expected for any future period.

| | Year Ended December 31, | | | | |
|---|---|---|---|---|---|
| | 2011 | 2010 | 2009 | 2008 | 2007 |
| | (In thousands, except share and per share data) | | | | |
| **Consolidated Statement of Income:** | | | | | |
| Revenues: | $ 103 | $ 279 | $ 150 | $ - | $ - |
| | | | | | |
| Cost of revenues | 324 | 628 | 339 | - | - |
| Gross loss | 221 | 349 | 189 | - | - |
| | | | | | |
| **Consolidated Statements of Operations:** | | | | | |
| Operating expenses: | | | | | |
| Research and development | 3,386 | 5,707 | 6,552 | 8,705 | 6,400 |
| Marketing and business development | 2,633 | 4,881 | 4,451 | 2,177 | 1,742 |
| General and administrative | 2,537 | 2,424 | 3,605 | 3,189 | 2,903 |
| Other expenses related to the settlement with Prometheus | - | 554 | - | - | - |
| Total operating expenses | 8,556 | 13,566 | 14,608 | 14,071 | 11,045 |
| Operating loss | 8,777 | 13,915 | 14,797 | 14,071 | 11,045 |
| Financial expenses (income), net | (1,391) | (1,031) | (45) | (5,449) | 3,616 |
| Loss from continuing operations | 7,386 | 12,884 | 14,752 | 8,622 | 14,661 |
| Net loss from discontinued operations | 1,444 | 1,871 | 1,753 | 841 | - |
| Net loss after discontinued operations | 8,830 | 14,755 | 16,505 | 9,463 | 14,661 |
| Attributable to non-controlling interest | - | - | - | - | - |
| | | | | | |
| Net loss attributable to Rosetta Genomics | $ 8,830 | $ 14,755 | $ 16,505 | $ 9,463 | $ 14,661 |

| | | | | | |
|---|---|---|---|---|---|
| Basic and diluted net loss per ordinary share from continuing operations | $ 0.97 | $ 3.05 | $ 4.36 | 2.88 | $ 5.28 |
| Basic and diluted net loss per ordinary share from discontinued operations attributable to Rosetta Genomics | $ 0.19 | $ 0.44 | $ 0.52 | 0.28 | - |
| Basic and diluted net loss per ordinary share attributable to Rosetta Genomics | $ 1.16 | $ 3.49 | $ 4.88 | 3.16 | $ 5.28 |
| Weighted average number of ordinary shares used to compute basic and diluted net loss per ordinary share attributable to Rosetta Genomics | 7,614,325 | 4,227,022 | 3,385,831 | 3,009,574 | 2,785,537 |

| | As of December 31, | | | | |
|---|---|---|---|---|---|
| | 2011 | 2010 | 2009 | 2008 | 2007 |
| | (In thousands) | | | | |
| **Consolidated Balance Sheet Data:** | | | | | |
| Cash and cash equivalents | $ 735 | $ 2,635 | $ 3,329 | $ 13,727 | $ 13,590 |
| Restricted cash | 37 | - | 1,076 | 643 | - |
| Short-term bank deposits | 112 | 190 | 3,143 | 840 | 112 |
| Marketable securities | - | 148 | 2,756 | 426 | 8,251 |
| Trade receivable | 11 | 21 | 72 | - | - |
| Working capital (deficiency) | (638) | 501 | 8,628 | 14,004 | 20,385 |
| Total assets | 2,044 | 5,293 | 12,743 | 20,268 | 26,038 |
| Convertible loan | - | - | 1,500 | 750 | - |
| Long-term liabilities | 552 | 2,592 | 3,596 | 1,615 | 568 |
| Total shareholders' equity (deficiency) | (356) | (630) | 6,842 | 16,100 | 23,605 |
| Capital stock | 84,689 | 74,778 | 68,206 | 61,052 | 59,011 |

### *B. CAPITALIZATION AND INDEBTEDNESS*

Not applicable.

### *C. REASONS FOR THE OFFER AND USE OF PROCEEDS*

Not applicable.

### *D. RISK FACTORS*

*If any of the following risks occurs, our business, business prospects, financial condition, results of operations, or cash flows could be materially harmed.*

**Risks Related to Our Business, Our Financial Results and Need for Financing**

***We will require substantial additional funds to continue our operations and, if additional funds are not available, we may need to significantly scale back or cease our operations.***

We have used substantial funds to discover, develop and protect our microRNA tests and technologies and will require substantial additional funds to continue our operations. Based on our current operations, our existing funds, including the proceeds from the January 2012 debt financing, will only be sufficient to fund operations until late May, 2012. We intend to seek funding through collaborative arrangements and public or private equity offerings and debt financings. Additional funds may not be available to us when needed on acceptable terms, or at all. In addition, the terms of any financing may adversely affect the holdings or the rights of our existing shareholders. For example, if we raise additional funds by issuing equity securities, further dilution to our then-existing shareholders may result. Debt financing, if available, may involve restrictive covenants that could limit our flexibility in conducting future business activities. If we are unable to obtain funding on a timely basis, we may be required to significantly curtail one or more of our research or development programs. We also could be required to seek funds through arrangements with collaborators or others that may require us to relinquish rights to some of our technologies, tests or products in development or approved tests or products that we would otherwise pursue on our own. Our failure to raise capital when needed will materially harm our business, financial condition and results of operations, and may require us to seek protection under the bankruptcy laws of Israel and the United States. See also "Item 5. Operating and Financial Review and Prospects – B. Liquidity and Capital Resources."

***The approach we are taking to discover and develop novel diagnostics and therapeutics is new and may never lead to commercially accepted products.***

We have concentrated our research and development efforts on diagnostics and therapeutics in the new field of microRNAs. To date, we have commercialized five diagnostic tests: miRview® mets, miRview® meso and miRview® squamous, which were launched in late 2008, miRview® mets$^2$, which was launched in December 2010, and miRview® lung, which was launched in July 2011. These tests have achieved very limited commercial success. The scientific discoveries that form the basis for our efforts to develop diagnostics and therapeutics are relatively new, and the scientific evidence to support the feasibility of developing products based on these discoveries is limited. Further, our focus solely on developing microRNA-based diagnostics and therapeutics as opposed to multiple or more proven technologies for the development of diagnostics and therapeutics increases the risks associated with the ownership of our ordinary shares. If we or a collaborative partner are not successful in commercializing our existing diagnostic tests or developing and commercializing additional microRNA-based tests or products, our business may fail.

***Because we have a short operating history, there is a limited amount of information about us upon which our business and prospects can be evaluated.***

Our operations began in 2000, and we have only a limited operating history upon which our business and prospects can be evaluated. In addition, as an early-stage company, we have limited experience and have not yet demonstrated an ability to successfully overcome many of the risks and uncertainties frequently encountered by companies in new and rapidly evolving fields, particularly in the biotechnology area. For example, to execute our business plan, we will need to successfully:

- build and maintain a strong intellectual property portfolio;
- execute development activities using an unproven technology;
- execute marketing and distribution activities;
- continue to develop and maintain successful strategic relationships;
- manage our spending while costs and expenses increase as we expand our efforts to discover, develop and commercialize diagnostics and therapeutics based on microRNAs; and
- gain commercial and, if applicable, regulatory acceptance of our tests and products.

If we are unsuccessful in accomplishing these objectives, we may not be able to raise capital, develop tests or products, expand our business or continue our operations.

***We have a history of losses and may never be profitable.***

We have experienced significant operating losses since our inception in 2000, and as of December 31, 2011, we had an accumulated deficit of $85 million. We had net loss attributable to Rosetta Genomics after discontinued operation of $8.8 million for the year ended December 31, 2011. Our net loss attributable to Rosetta Genomics before discontinued operation for the year ended December 31, 2011 was $7.4 million. We anticipate that the majority of any revenues we generate over the next several years will be from our direct selling efforts of our currently marketed products in the U.S. and from existing and future collaborations and licensing arrangements and the sale of diagnostic tests using our microRNA technology, including our currently marketed tests. We cannot be certain, however, that our direct selling efforts in the U.S. or our existing collaborations will be successful or that we will be able to secure any collaborations or achieve any milestones that may be required to receive payments or that diagnostic tests based on our technologies, including that our currently marketed tests, will be successfully commercialized. If we are unable to secure significant revenues from our own direct selling efforts or through collaborations and the sale of tests or products, we may be unable to continue our efforts to discover, develop and commercialize microRNA-based diagnostics and therapeutics without raising additional funds from other sources.

***Fluctuations in currency exchange rates of the New Israeli Shekel vs. the U.S. dollar may have a significant impact on our reported results of operations.***

Fluctuations in currency exchange rates may have a significant impact on our reported results of operations. Although our reporting currency is the U.S. dollar, significant portions of our expenses are denominated in New Israeli Shekels, or NIS. In periods when the U.S. dollar is devalued against the NIS, our reported results of operations may be adversely affected. In addition, fluctuations in currencies may result in valuation adjustments in our assets and liabilities which could affect our reported results of operations.

**Our debt obligations expose us to risks that could adversely affect our business, operating results and financial condition.**

We have significant debt that becomes due in May 2012 and January 2013. Pursuant to promissory notes entered into under the settlement agreement with Prometheus Laboratories, Inc. in November 2010, we have a final payment of $750,000 plus interest due on May 22, 2012. In addition, on January 26, 2012, we entered into a secured loan agreement, pursuant to which we issued an aggregate of $1,750,000 in senior secured debentures. The Debentures have a maturity date of January 26, 2013 and interest is payable semi-annually. We will need to raise additional capital to pay our indebtedness as it comes due. If we are unable to obtain funds necessary to make required payments, or if we fail to comply with the various requirements of our indebtedness, we would be in default, which would permit the holders of our indebtedness to accelerate the maturity of the indebtedness. Any default under our indebtedness would have a material adverse effect on our business, operating results and financial condition. If we are unable to refinance or repay our indebtedness as it becomes due, we may be unable to continue operations and/or may need to seek bankruptcy protection.

***The agreements governing our secured convertible debentures issued in January 2012, contain various covenants that impose restrictions on us that may affect our ability to operate our business.***

The agreements governing our secured convertible debentures issued in January 2012, contain various covenants that contain certain rights for the debenture holders and impose restrictions on us that may affect our ability to operate our business, including the following:

- a restriction on our ability to enter into a reverse merger with a company that is not a public company with shares trading on The NASDAQ Capital Market or any other United States Trading Market (as defined in the Securities Exchange Act of 1934, as amended, or Exchange Act);

- a restriction on our ability to sell, assign, transfer or dispose of any of the collateral without the written consent of the debenture holders; and

- for as long as the debentures remain outstanding, if we reach a definitive agreement with any third party regarding any one or more of the following types of transactions: (i) an equity or debt financing, (ii) the sale, disposal or transfer of all or substantially all of its material assets, (iii) a merger or reverse merger, (iv) a reorganization, or (v) any other transaction that could result in a change in control of the Company we must give the debenture holders (or their designees) at least ten business days' opportunity to engage in discussion with us to participate in such transaction.

These rights held by the debenture holders and the restrictions on our ability to operate our business could seriously harm our business by, among other things, limiting our ability to take advantage of financing, merger and acquisition and other corporate opportunities. In addition, failure to comply with any of the covenants could result in a default under the debentures. A default would permit the debenture holders to accelerate the maturity for the debt and to foreclose upon the collateral securing the debt. Under these circumstances, we might not have sufficient funds or other resources to satisfy all of our obligations, including our obligations under the debentures.

***Fluctuations in our share price may have a significant impact on our reported liabilities and reported results of financial income or expenses.***

Fluctuations in our share price may have a significant impact on our reported liabilities because certain outstanding warrants are classified as liabilities measured at fair value each reporting period until they are exercised or expire, with changes in the fair values being recognized in our statement of operations as financial income or expense. In periods when share price is ascending, the reported liability and the reported results of financial expense are adversely affected.

**Risks Related to Our Intellectual Property**

***If we are not able to obtain and enforce patent protection for our discoveries, our ability to develop and commercialize microRNA-based diagnostics and therapeutics will be harmed.***

Our success depends, in large part, on our ability to protect proprietary methods and technologies that we develop under the patent and other intellectual property laws of the U.S., Israel and other countries, so that we can prevent others from unlawfully using our inventions and proprietary information. As of February 29, 2012, our patent portfolio included a total of 21 issued U.S. patents, one issued Australian patent, 2 issued Israeli patents, 61 pending patent applications worldwide, consisting of 29 U.S. patent applications, 2 of which received notice of allowance, 3 PCT applications, 4 applications that were nationalized in Europe, 14 applications nationalized in Israel, 2 applications nationalized in Japan, 3 applications nationalized in Australia, 2 applications nationalized in China and 1 application that was nationalized in each of Korea and India. There can be no assurance, however, that any of these pending patent applications will result in issued patents. The patent position of pharmaceutical or biotechnology companies, including ours, is generally uncertain and involves complex legal and factual considerations, and, therefore, validity and enforceability cannot be predicted with certainty. Patents may be challenged, deemed unenforceable, invalidated, or circumvented. Furthermore, the standards that the U.S. Patent and Trademark Office, or PTO, and its foreign counterparts use to grant patents are not always applied predictably or uniformly and may change. There is also no uniform, worldwide policy regarding the subject matter and scope of claims granted or allowable in pharmaceutical or biotechnology patents. Furthermore, the field of microRNAs is new and developing. Accordingly, there is significant uncertainty about what patents will be issued, and what their claims may cover. It is likely that there will be significant litigation and other proceedings, such as interference proceedings and opposition proceedings, in certain patent offices,

relating to patent rights in the microRNA field. Others may attempt to invalidate our intellectual property rights. Even if our rights are not directly challenged, disputes among third parties could lead to the weakening or invalidation of our intellectual property rights. Accordingly, we do not know the degree of future protection for our proprietary rights or the breadth of claims that will be allowed in any patents issued to us or to others. Additionally, the mere issuance of a patent does not guarantee that it is valid or enforceable, so even issued patents may not be valid or enforceable against third parties.

In addition, we cannot be certain that we hold the rights to the technology covered by our pending patent applications or to other proprietary technology required for us to commercialize our proposed tests and products. Because certain U.S. patent applications are confidential until patents issue, and because certain applications will not be filed in foreign countries, third parties may have filed patent applications for technology covered by our pending patent applications without our being aware of those applications, and our patent applications may not have priority over those applications. For this and other reasons, we may be unable to secure desired patent rights, thereby losing desired exclusivity. Thus, it is possible that one or more organizations will hold patent rights to which we will need a license. If those organizations refuse to grant us a license to such patent rights on reasonable terms, we will not be able to market our tests and products.

***If we become involved in patent litigation or other proceedings related to a determination of rights, we could incur substantial costs and expenses, substantial liability for damages or be required to stop our development and commercialization efforts.***

A third party may sue us for infringing its patent rights. Likewise, we may need to resort to litigation to enforce a patent issued or licensed to us or to determine the scope and validity of third-party proprietary rights. In addition, a third party may claim that we have improperly obtained or used its confidential or proprietary information. The cost to us of any litigation or other proceeding relating to intellectual property rights, even if resolved in our favor, could be substantial, and the litigation would divert our management's efforts. Some of our competitors may be able to sustain the costs of complex patent litigation more effectively than we can because they have substantially greater resources, and we may not have sufficient resources to adequately enforce our intellectual property rights. Uncertainties resulting from the initiation and continuation of any litigation could limit our ability to continue our operations.

If we are found to infringe upon intellectual property rights of third parties, we could be forced to pay damages, potentially including treble damages, if we are found to have willfully infringed on such parties' patent rights. In addition to any damages we might have to pay, a court could require us to stop the infringing activity or obtain a license. If we fail to obtain a required license and are unable to design around a patent, we may be unable to effectively market some of our technology, tests and products, which could limit our ability to generate revenues or achieve profitability and possibly prevent us from generating revenues sufficient to sustain our operations. Moreover, we expect that a number of our collaborations will provide that royalties payable to us for licenses to our intellectual property may be offset by amounts paid by our collaborators to third parties who have competing or superior intellectual property positions in the relevant fields, which could result in significant reductions in our revenues from tests or products developed through collaborations.

***We license patent rights from third-party owners. If such owners do not properly maintain or enforce the patents underlying such licenses, our competitive position and business prospects will be harmed.***

We are a party to license agreements that give us rights to third-party intellectual property that we believe may be necessary or useful for our business, such as our agreements with The Rockefeller University, Max Planck Innovation GmbH, or Max Planck, and Johns Hopkins University. We intend to enter into additional licenses of intellectual property with third parties in the future. Our success will depend in part on the ability of our licensors to obtain, maintain and enforce patent protection for our licensed intellectual property, in particular, those patents to which we have secured exclusive rights. Our licensors may not successfully prosecute the patent applications which we have licensed. Even if patents issue in respect of these patent applications, our licensors may fail to maintain these patents, may determine not to pursue litigation against other companies that are infringing these patents, or may pursue such litigation less aggressively than we would. Without protection for the intellectual property we license, other companies might be able to offer substantially identical tests or products for sale, which could adversely affect our competitive business position and harm our business prospects. Our current material license agreements contain the following patent enforcement provisions:

- under our license agreements with The Rockefeller University, if Rockefeller University fails to enforce the patents we licensed, we have the right to enforce the patents and pursue litigation against any infringement of such patents;

- under our license agreement with Max Planck for diagnostic purposes, we have the responsibility to assist in the prosecution of any patent infringement actions undertaken by Max Planck;

- under our license agreement with Max Planck for research purposes, Max Planck controls the filing, prosecution, maintenance and abandonment of all patents; and

- under our agreement with Johns Hopkins University, Johns Hopkins is responsible for prosecution and maintenance of patents, and we have the right but not the obligation to enforce the patents against any infringement by third parties.

***If we fail to comply with our obligations under any licenses or related agreements, we could lose license rights that may be necessary for developing microRNA-based diagnostics and therapeutics.***

Our current licenses impose, and any future licenses we enter into are likely to impose, various development, commercialization, funding, royalty, diligence, sublicensing, insurance and other obligations on us. Such obligations may include:

- royalty payments;
- annual maintenance fees;
- payment of fees relating to patent prosecution, maintenance and enforcement;
- maintaining insurance coverage; and
- using commercially reasonable efforts to develop tests and products using the licensed technology.

If we breach any of our obligations under our licenses, the licensor may have the right to terminate the license, which could result in our being unable to develop, manufacture and sell tests or products that are covered by the licensed technology or a competitor's gaining access to the licensed technology.

***Confidentiality agreements with employees and others may not adequately prevent disclosure of trade secrets and other proprietary information.***

We also rely on trade secrets, know-how and technology, which are not protected by patents, to maintain our competitive position. In order to protect our proprietary technology and processes, we also rely in part on confidentiality agreements with our collaborators, employees, consultants, outside scientific collaborators and sponsored researchers and other advisors. These agreements may not effectively prevent disclosure of confidential information and may not provide an adequate remedy in the event of unauthorized disclosure of confidential information. In addition, others may independently discover trade secrets and proprietary information, and in such cases we could not assert any trade secret rights against such party. Costly and time-consuming litigation could be necessary to enforce and determine the scope of our proprietary rights, and failure to obtain or maintain trade secret protection could adversely affect our competitive business position.

**Risks Related to Development, Clinical Testing and Regulatory Approval of Diagnostics and Therapeutics**

***We and others who may develop diagnostic tests applying our microRNA technology are subject to a variety of regulatory frameworks.***

We and others who may develop diagnostic tests based on our microRNA technology are subject to a variety of laws enforced by the U.S. federal government and the states in which they, and we conduct, or will conduct, business, including the Clinical Laboratory Improvement Amendments of 1988, or CLIA, state clinical laboratory licensure laws and regulations, and the Federal Food, Drug, and Cosmetic Act and related regulations. The growth of our business may subject us to increasing regulation. Any action brought against us, or any business partners, for alleged violations of these laws or regulations, even if we or they successfully defend against it, could cause us to incur significant legal expenses and divert our management's attention from the operation of our business. If their or our operations are found to be in violation of any of these laws and regulations, they or we may be subject to a range of penalties associated with the violation, including injunctions, fines, civil or criminal penalties, and exclusion from government programs and they or we could be required to curtail or cease operations. Any of the foregoing consequences could seriously harm our business and our financial results.

***If we do not comply with governmental regulations applicable to our CLIA-certified laboratory, we may not be able to continue our operations.***

The operations of our laboratory in Philadelphia are subject to regulation by numerous federal, state and local governmental authorities in the United States. The laboratory holds a CLIA certificate of compliance and is licensed by the Commonwealth of Pennsylvania, which enables us to provide testing services to residents of most states. We have also obtained licenses from California, Maryland, Rhode Island, Florida and New York, and plan to obtain licenses from other states as required. In addition, we are accredited by the College of American Pathologists, or CAP. The CAP Laboratory Accreditation Program is an internationally recognized program that utilizes teams of practicing laboratory professionals as inspectors, and accreditation by CAP can also be used to meet CLIA and state certification requirements.

CLIA is a federal law that regulates clinical laboratories that perform testing on human specimens for the purpose of providing information for the diagnosis, prevention or treatment of disease. CLIA imposes quality standards for laboratory testing to ensure the accuracy, reliability and timeliness of reporting patient test results. CLIA-certified laboratories are subject to survey and inspection

every two years. Moreover, CLIA inspectors may make random inspections of these laboratories. If we were to lose our CLIA certification or our state licenses, or if they were limited in scope, we would no longer be able to continue our testing operations which would have a material adverse effect on our business.

***Any diagnostic tests that may be developed by us or others using our microRNA technology may be subject to regulatory approval, which can be lengthy, costly and burdensome.***

Although the U.S. Food and Drug Administration, or FDA, has consistently stated that it has the authority to regulate clinical laboratory tests as medical devices, it has generally exercised enforcement discretion in not otherwise regulating most tests developed and validated at the high complexity CLIA-certified laboratory at which the test is performed. These tests are known as laboratory-developed tests, or LDTs. Our currently marketed tests were launched as LDTs by our CLIA–certified clinical laboratory operating in Philadelphia, Pennsylvania. More recently, however, the FDA indicated that it was reviewing the regulatory requirements that will apply to LDTs, and held a two-day public meeting in 2010, to obtain input from stakeholders on how it should apply its authority to implement a reasonable risk-based and effective regulatory framework for LDTs. The FDA has not indicated when or how those changes will be implemented, but it left little doubt that changes are forthcoming. We are monitoring this development carefully, and although we intend to continue to launch new clinical tests as LDTs in our CLIA-certified laboratory, we cannot provide any assurance that FDA regulation, including pre-market clearance or approval, will not be required in the future for LDTs applying our microRNA technology. If pre-market clearance or approval is required, our business could be negatively impacted because we would have to obtain the data that will be required to support required submissions to the FDA and because our CLIA-certified laboratory may be required to stop offering our tests until they are cleared or approved by the FDA.

***Diagnostic tests based on our microRNA technology may require the performance of clinical trials, which can be lengthy, costly and burdensome.***

If the FDA decides to require pre-market clearance or approval of tests based on our microRNA technology, it may require us to perform clinical trials prior to submitting a marketing application. If we are required to conduct clinical trials, whether using prospectively acquired samples or archival samples, delays in the commencement or completion of clinical testing could significantly increase development costs and delay commercialization. The commencement of clinical trials may be delayed due to our inability to obtain a sufficient number of patient samples, which is a function of many factors, including the size of the relevant patient population and the nature of the disease or condition being studied. It also may be necessary to engage contract research organizations, or CROs, to perform data collection and analysis and other aspects of these clinical trials, which might increase the cost and increase the time to completion.

***We may be unable to obtain regulatory approval of any therapeutic product that we or a collaborator may develop.***

Any therapeutic product that we or our collaborators may develop will be subject to extensive governmental regulations including those relating to development, clinical trials, manufacturing and commercialization. Rigorous preclinical testing, the performance of clinical trials and an extensive regulatory review process are required to be successfully completed in the United States and in many foreign jurisdictions before a new therapeutic product can be sold. Satisfaction of these and other regulatory requirements is costly, time consuming, uncertain and subject to unanticipated delays. The time required to obtain FDA and other approvals for therapeutic products is unpredictable but typically exceeds several years. It is possible that none of the therapeutic products we or our collaborators may develop will obtain the appropriate regulatory approvals necessary for us or our collaborators to begin selling them.

Furthermore, the FDA has not yet established any definitive policies, practices or guidelines in relation to the newly discovered class of therapeutic products we seek to develop. The lack of such policies, practices or guidelines may hinder or slow review by the FDA of any regulatory filings that we or our collaborators may submit. Moreover, the FDA may respond to these submissions by defining requirements we may not have anticipated. Such responses could lead to significant delays in the approval of therapeutic products. Any delay or failure in obtaining required approvals could have a material adverse effect on our ability to generate revenues from a particular therapeutic product.

Furthermore, any regulatory approval to market a therapeutic product may be subject to limitations on the indicated uses. These limitations may limit the size of the market for the therapeutic product. Any therapeutic product that we or our collaborators may develop will also be subject to numerous foreign regulatory requirements governing the conduct of clinical trials, manufacturing and marketing authorization, pricing and third-party reimbursement among other things. The foreign regulatory approval process includes all of the risks associated with FDA approval described above as well as risks attributable to the satisfaction of local regulations in foreign jurisdictions. Therefore, approval by the FDA of a therapeutic product does not assure approval by regulatory authorities outside the United States or vice versa.

***We have no experience in conducting, managing or sponsoring clinical trials for potential therapeutic products.***

We have no experience in conducting and managing the clinical trials necessary to obtain regulatory approvals for any therapeutic product, and we intend to rely on third parties such as CROs, medical institutions and clinical investigators to perform these functions. Our reliance on third parties for clinical development activities reduces our control over these activities. Third-party contractors may not complete activities on schedule, or may not conduct clinical trials in accordance with regulatory requirements or our trial design. If these third parties do not successfully carry out their contractual duties or meet required performance standards or expected deadlines, we might be required to replace them or the data that they provide could be rejected, all of, which may result in a delay of the affected trial.

***If we are found to have violated laws protecting the confidentiality of patient health information, we could be subject to civil or criminal penalties, which could increase our liabilities and harm our reputation or our business.***

There are a number of U.S. federal and state laws and foreign laws protecting the confidentiality of individually identifiable patient health information, including patient records, and restricting the use and disclosure of that protected information that we are subject to. In the U.S., the U.S. Department of Health and Human Services promulgated patient privacy rules under the Health Insurance Portability and Accountability Act of 1996, or HIPAA. These privacy rules protect medical records and other personal health information by limiting their use and disclosure, giving individuals the right to access, amend and seek accounting of their own health information and limiting most use and disclosures of health information to the minimum amount reasonably necessary to accomplish the intended purpose. If we are found to be in violation of the privacy rules under HIPAA, we could be subject to civil or criminal penalties as well as fines, which could increase our liabilities and harm our reputation or our business. Allegations that we have violated individuals' privacy rights, even if we are not found liable, could be expensive and time-consuming to defend and could result in adverse publicity that could harm our business. Non-U.S. privacy protection requirements such as the European Union's Data Protection Directive governing the processing of personal data, may be stricter than the U.S. law and violation would impose similar penalties.

***If we do not comply with laws regulating the protection of the environment and health and human safety, our business could be adversely affected.***

Our research and development activities involve the use of hazardous and chemicals materials, and we maintain quantities of various flammable and toxic chemicals in our facilities in Israel and the United States. We believe our procedures for storing, handling and disposing these materials in our Israel and U.S. facilities comply with the relevant guidelines of the State of Israel and the United States. Although we believe that our safety procedures for handling and disposing of these materials comply with the standards mandated by applicable regulations, the risk of accidental contamination or injury from these materials cannot be eliminated. If an accident occurs, we could be held liable for resulting damages, which could be substantial. We are also subject to numerous environmental, health and workplace safety laws and regulations, including those governing laboratory procedures, exposure to blood-borne pathogens and the handling of biohazardous materials. We may incur substantial costs to comply with, and substantial fines or penalties if we violate, any of these laws or regulations.

***If we do not comply with laws regulating the use of human tissues, our business could be adversely affected.***

We use human tissue samples for the purpose of development and validation of our tests. Our access and use of these samples is subjected to government regulation, in the U.S., Israel and elsewhere and may become subject to further regulation. For example, the Israeli Ministry of Health requires compliance with the principles of the Helsinki Declaration, the Public Health Regulations (Clinical Trials in Human Subjects) 1980, the provisions of the Guidelines for Clinical Trials in Human Subjects and the provisions of the current Harmonized Tripartite Guideline for Good Clinical Practice. Our failure to comply with these or similar regulations could impact our business and results of operations.

**Risks Related to Competition and Commercialization**

***If we are unable to expand U.S. sales and marketing capabilities or enter into agreements with third parties to market and sell our diagnostic tests in the United States, it would have a material adverse effect on our business and financial condition.***

In November 2010, we reacquired the U.S. commercial rights to our current diagnostic tests, and in May 2011, we established our own internal oncology sales team consisting of four oncology sales specialists. To date this team has had very limited success in commercializing our diagnostic tests. In order to market our tests successfully in the U.S., we believe we must significantly expand our sales, marketing and other commercial capabilities or make arrangements with third parties to perform these services. If we are unable to establish adequate sales, marketing and distribution capabilities in the United States, whether independently or with third parties, it would have a material adverse effect on our business and financial condition.

***The intensely competitive biotechnology market could diminish demand for our tests and products.***

The biopharmaceutical market is intensely competitive and rapidly changing. Many diagnostic, pharmaceutical and biotechnology companies, academic institutions, governmental agencies and other public and private research organizations are pursuing the research of technologies and development of novel diagnostic tests and therapeutic products for the same diseases that we and others who may develop products based on our microRNA technology are targeting or may target. We and they will face intense competition from

tests and products that have already been approved and accepted by the medical community for the diseases for which we or they may develop tests or products. We and others who may develop products based on our microRNA technology may also face competition from new tests or products that enter the market. We believe a significant number of tests and products are currently under development, and may become commercially available in the future, for the diseases for which we, our collaborators, or third-party licensees may try to develop tests and products. In addition to the competition we face from existing tests and products in development, we and others who may develop products based on our microRNA technology will also face competition from other companies working to develop novel tests and products using technology that competes more directly with our microRNA technologies. We are aware of several other companies that are working to develop microRNA-based diagnostics and therapeutics, including Combimatrix Corporation, Alnylam Pharmaceuticals, Inc., Asuragen Inc., Exiqon A/S, Life Technologies Corporation, Isis Pharmaceuticals, Merck & Co., Inc., Santaris Pharma A/S, Regulus Therapeutics and others. In addition, we face competition from companies that have developed or are developing diagnostic tests based on other non-microRNA technologies such as Pathwork Diagnostics, Inc. and Biotheranostics, Inc. Any of these companies may develop microRNA-based tests or products more rapidly and more effectively than we or our collaborators will. If we are unable to compete effectively with existing tests and products, new treatment methods and new technologies, we and others who may develop products based on our microRNA technology may be unable to commercialize any diagnostic tests or therapeutic products that we or they develop.

Many of our competitors have:

- much greater financial, technical and human resources than we have at every stage of the discovery, development, manufacture and commercialization process;
- more extensive experience in preclinical testing, conducting clinical trials, obtaining regulatory approvals, and in manufacturing and marketing diagnostics and therapeutics;
- tests or products that have been approved or are in late stages of development; and
- collaborative arrangements in our target markets with leading companies and research institutions.

Our competitors may develop or commercialize tests or products with significant advantages over any diagnostic tests or therapeutic products we, our collaborators or third-party licensees may develop. Our competitors may therefore be more successful in commercializing their tests and products than we, our collaborators, or third party licensees are, which could adversely affect our competitive position and business.

***Health insurers and other third-party payors may decide not to cover our diagnostic products or may provide inadequate reimbursement, which could jeopardize our commercial prospects.***

In the United States, private and government payors decide whether to cover a new diagnostic test, the amount that it will pay for a covered test and the specific conditions for reimbursement. Each third-party payor makes its own decision about which tests it will cover and how much it will pay, although many payors will follow the lead of Medicare. As a result, the coverage determination process is often a time-consuming and costly process that will require us to provide scientific and clinical support for the use of each of our tests to each payor separately, with no assurance that approval will be obtained. If third-party payors decide not to cover our diagnostic tests or if they offer inadequate payment amounts, our ability to generate revenue from our diagnostic tests could be limited. Even if one or more third-party payors decides to reimburse for our tests, a third-party payor may stop or lower payment at any time, which would reduce revenue. We cannot predict whether third-party payors will cover our tests or offer adequate payments. We also cannot predict the timing of such decisions. In addition, physicians or patients may decide not to order our tests if third-party payments are inadequate, especially if ordering the test could result in financial liability for the patient.

In the United States, the American Medical Association assigns specific Current Procedural Terminology, or CPT, codes, which are a medical nomenclature used to report medical procedures and services under public and private health insurance plans. Once the CPT code is established, the Centers for Medicare and Medicaid Services, or CMS, establishes reimbursement payment levels and coverage rules for Medicare, and private payors establish rates and coverage rules independently. We cannot guarantee that any of our tests will receive its own CPT code and will be approved for reimbursement by Medicare or other third-party payors. Additionally, any or all of our diagnostic tests developed in the future may not be approved for reimbursement or may be approved at a level that limits our commercial success.

In addition, payment for diagnostic tests furnished to Medicare beneficiaries in most instances is made based on a fee schedule set by CMS. In recent years, payments under these fee schedules have decreased and may decrease more, which could jeopardize our commercial prospects. Reimbursement decisions in the European Union and in other jurisdictions outside of the United States vary by country and regions and there can be no assurance that we will be successful obtaining adequate reimbursement.

In addition, reimbursement outside the United States varies by country, and we cannot predict if our products will be reimbursed outside of the United States and the timing of such reimbursement.

***Changes in healthcare policy could increase our costs, decrease our revenues and impact sales of and reimbursement for our tests.***

In March 2010, the President of the United States signed the Patient Protection and Affordable Care Act, as amended by the Health Care and Education Affordability Reconciliation Act, or the Healthcare Reform Act. This law substantially changes the way health care will be financed by both governmental and private insurers, and significantly impacts our industry. The Healthcare Reform Act contains a number of provisions that are expected to impact our business and operations, including those governing enrollment in federal healthcare programs, reimbursement changes and fraud and abuse, which will impact existing government healthcare programs and will result in the development of new programs.

Additional provisions of the Healthcare Reform Act, some of which become effective in 2011, may negatively affect our revenues. For example, the Healthcare Reform Act mandates a reduction in payments for clinical laboratory services paid under the Medicare Clinical Laboratory Fee Schedule of 1.75% for the years 2011 through 2015. This adjustment is in addition to a productivity adjustment to the Clinical Laboratory Fee Schedule. It also imposes an excise tax of 2.3% on the sales of medical devices beginning in 2013.

In addition to the Healthcare Reform Act, there will continue to be proposals by legislators at both the federal and state levels, regulators and third-party payors to keep these costs down while expanding individual healthcare benefits. Certain of these changes could impose additional limitations on the prices we will be able to charge for our tests or the amounts of payment available for our tests from governmental agencies or third-party payors. While in general it is too early to predict specifically what effect the Health Reform Act and its implementation or any future healthcare reform legislation or policies will have on our business, current and future healthcare reform legislation and policies could have a material adverse effect on our business and financial condition.

***The market may not be receptive to any diagnostic tests or therapeutic products using our microRNA technology upon their commercial introduction.***

Any diagnostic tests or therapeutic products using our microRNA technology that we, our collaborators or third-party licensees have developed or are developing are based upon new technologies or diagnostic or therapeutic approaches. Key participants in pharmaceutical marketplaces, such as physicians, third-party payors and consumers, may not accept a microRNA-based approach. As a result, it may be more difficult for us, our collaborators or third-party licensees to convince the medical community and third-party payors to accept and use such tests and products. Other factors that we believe will materially affect market acceptance of diagnostic tests or therapeutic products using our microRNA technology include:

- the timing of any marketing approvals, the terms of any approvals and the countries in which approvals are obtained;
- the success of physician education programs;
- the availability of alternative diagnostics and therapeutics; and
- the pricing of such tests or products, particularly as compared to alternatives.

**Risks Related to Our Dependence on Third Parties**

***We are largely dependent upon our distributors for the success of commercialization of our current diagnostic tests.***

We currently have the following distribution agreements relating to our diagnostic tests:

- with Teva Pharmaceutical Industries Ltd., pursuant to which Teva has the right to distribute these tests in Turkey and Israel;
- with Warnex Medical Laboratories, a division of Warnex, Inc., pursuant to which Warnex has the exclusive right to distribute these tests in Canada;
- with Genekor S.A., pursuant to which Genekor has the exclusive right to distribute these tests in Greece;
- with Super Religare Laboratories Limited (SRL), pursuant to which SRL has the non-exclusive right to distribute these tests in India, Saudi Arabia, Qatar and the United Arab Emirates; and
- with Genetic Technologies Limited (GTL), pursuant to which GTL has the exclusive right to distribute these tests in Australia, New Zealand and Singapore.

In addition, in October 2011, we entered into a license agreement with Avatao Biotech pursuant to which we granted Avatao exclusive rights to market and perform our miRview® mets and miRview® mets$^2$ tests in China. Avatao will also have exclusive rights to market and perform one additional test in China, to be selected by Avatao within one year. However, as of March 1, 2012, we believe Avatao Biotech is in breach of the license agreement for failure to make required payments to us, and we are currently exploring our options due to this breach, including potentially terminating the agreement.

We are largely dependent upon these distributors for the commercial success of our tests outside of the United States. The potential revenues from these agreements consist of contingent payments based on the sale of our products. These payments will depend upon our collaborators' ability to devote the necessary resources to successfully commercialize these tests. In addition, if any of our current or potential future distributors were to breach or terminate its agreement with us, the commercialization of these tests could be

adversely affected because we may not have sufficient financial resources or capabilities to successfully commercialize these tests on our own or find other partners.

If any of our distributors or licensees does not devote sufficient time and resources to the collaboration or if a collaboration is breached or terminated, we may not realize the potential commercial benefits of the arrangement, and our results of operations may be adversely affected.

***We may not be able to execute our business strategy if we are unable to enter into additional collaborations with other companies that can provide capabilities and funds for the development and commercialization of our microRNA-based diagnostics and therapeutics.***

We have limited capabilities for sales, marketing, distribution and product development, including obtaining regulatory approval of therapeutic products. Accordingly, we may enter into additional collaborations with pharmaceutical, biotechnology or diagnostic companies to jointly develop specific tests or products and to jointly commercialize them. In such collaborations, we would expect our collaborators to provide substantial capabilities in clinical development, regulatory affairs, marketing and sales. While such agreements could provide us with an opportunity to develop and commercialize tests and products, they may necessitate a reliance on our collaboration partner in numerous aspects of the research and development, regulation, manufacturing, marketing and sales of these tests and products. We may not be successful in entering into any additional collaborations on favorable terms or maintaining any such collaborations into which we enter. In addition, while such agreements would provide us with opportunities, they would also require us to share the down-stream profits with our collaborators, thereby reducing our ability to fully capitalize on sales.

***If any collaborator terminates or fails to perform its obligations under agreements with us, the development and commercialization of our tests and products could be delayed or terminated.***

Our expected dependence on collaborators for certain capabilities and funding means that our business would be adversely affected if any collaborator terminates its collaboration agreement with us or fails to perform its obligations under that agreement. Our current or future collaborations, if any, may not be scientifically or commercially successful. Disputes may arise in the future with respect to the ownership of rights to tests or products developed with collaborators, which could have an adverse effect on our ability to develop and commercialize any affected test or product. If a collaborator terminates its collaboration with us, for breach or otherwise, it could be difficult for us to attract new collaborators and it could adversely affect how we are perceived in the business and financial communities. In addition, a collaborator could determine that it is in its financial interest to:

- pursue alternative technologies or develop alternative tests or products, either on its own or jointly with others, that may be competitive with the tests or products on which it is collaborating with us or which could affect its commitment to the collaboration with us;

- pursue higher priority programs or change the focus of their development programs, which could affect the collaborator's commitment to us; or

- if it has marketing rights and obligations, choose to devote fewer resources to the marketing of our tests or products, than they do for tests or products of their own development, or of their co-development with third parties.

If any of these occur, we may not have sufficient financial resources or capabilities to continue the development and commercialization of such test or product on our own.

***We rely on third parties for tissue samples and other materials required for our research and development activities and if we are unable to reach agreements with these third parties our research and development activities would be delayed.***

We rely on third parties, primarily hospitals, health clinics and academic institutions, for the provision of tissue samples and other materials required in our research and development activities. Obtaining these materials requires various approvals as well as reaching a commercial agreement on acceptable terms with the hospital or other provider of the materials. We may not be able to reach agreements with a sufficient number of suppliers or do so on terms acceptable to us. If we are unable to reach acceptable agreements with a sufficient number of suppliers of research materials, our research and development activities will be delayed and our ability to implement our business plan will be compromised.

***We currently have limited sales, marketing or distribution experience and may depend significantly on third parties to commercialize microRNA-based diagnostic tests or therapeutic products we may develop.***

We currently have a small U.S. sales and marketing team. We will need to significantly expand our sales team or rely on collaborators or other third parties to commercialize our current tests and any future tests we may develop in the United States,. We have limited control over the sales, marketing and distribution activities of our collaborators, and our future revenues will depend on the success of

the efforts of our collaborators. To significantly expand our internal sales, distribution and marketing capabilities, we will have to invest significant amounts of financial and management resources, and we will face a number of additional risks, including:

- we may not be able to attract and build a significant marketing or sales force;
- the cost of establishing a marketing or sales force may not be justifiable in light of the revenues generated by any particular test or product; and
- our direct sales and marketing efforts may not be successful.

**Risks Related to Our Operations**

***If we are unable to attract and retain qualified key management and scientists, staff consultants and advisors, our ability to implement our business plan may be adversely affected.***

We are highly dependent upon certain of our senior management and scientific staff. The loss of the service of these persons may significantly delay or prevent our achievement of product development and other business objectives. Our employment agreements with our key personnel are terminable by the employee at any time with notice. Additionally, although we have generally been successful in our recruiting efforts, we face intense competition for qualified individuals from numerous pharmaceutical and biotechnology companies, universities, governmental entities and other research institutions. We may be unable to attract and retain suitably qualified individuals, and our failure to do so could have an adverse effect on our ability to implement our business plan.

***There is a substantial risk of product liability claims in our business. If we are unable to obtain sufficient insurance, a product liability claim against us could adversely affect our business.***

Our business exposes us to significant potential product liability risks that are inherent in the development, manufacturing and marketing of diagnostics and therapeutics. Product liability claims could delay or prevent completion of our clinical development programs. We currently have product liability insurance covering our current commercial tests, and clinical trial insurance for certain trials and cancer programs requiring insurance in an amount up to $5 million in the aggregate. We plan to obtain insurance for all research programs at appropriate levels prior to initiating any required clinical trials and at higher levels prior to marketing approved therapeutic products. Any insurance we obtain may not provide sufficient coverage against potential liabilities. Furthermore, clinical trial and product liability insurance is becoming increasingly expensive. As a result, we may be unable to obtain sufficient insurance at a reasonable cost to protect us against losses caused by product liability claims that could have a material adverse effect on our business.

***If we are unable to manage the challenges associated with our international operations, the growth of our business could be limited.***

In addition to our operations in Rehovot, Israel, our wholly owned subsidiary, Rosetta Genomics Inc., operates our CLIA-and CAP certified laboratory in Philadelphia, Pennsylvania. We are subject to a number of risks and challenges that specifically relate to these international operations. Our international operations may not be successful if we are unable to meet and overcome these challenges, which could limit the growth of our business and may have an adverse effect on our business and operating results. These risks include:

- fluctuations in foreign currency exchange rates that may increase the U.S. dollar cost of our international operations;
- difficulty managing operations in multiple locations, which could adversely affect the progress of our development programs and business prospects;
- local regulations that may restrict or impair our ability to conduct pharmaceutical and biotechnology-based research and development;
- foreign protectionist laws and business practices that favor local competition;
- failure of local laws to provide the same degree of protection against infringement of our intellectual property, which could adversely affect our ability to develop tests or products or reduce future product or royalty revenues, if any, from tests or products we may develop;
- laws and regulations governing U.S. immigration and entry into the United States that may restrict free movement of our employees between Israel and the United States; and
- laws and regulations governing U.S. immigration and entry into the United States that may restrict employment of Israeli citizens in our U.S. facilities.

***We are exposed to risks relating to evaluations of controls required by Section 404 of the Sarbanes-Oxley Act of 2002, and have identified a material weakness in internal control over financial reporting.***

Under the current rules of the SEC, we are now required to comply with the management assessment of internal control over financial reporting requirement of Section 404 of the Sarbanes-Oxley Act of 2002. We have evaluated our internal control systems to allow management to report on our internal control over financial reporting, and have identified an internal control deficiency that constitutes a "material weakness" under applicable SEC and Public Company Accounting Oversight Board rules and regulations relating to management and audit committee internal control review. A "material weakness" is a control deficiency, or combination of control deficiencies that results in more than a remote likelihood that a material misstatement of the annual or interim financial statements will not be prevented or detected. Because of this material weakness, management has concluded that, as of December 31, 2011, we did not maintain effective internal control over financial reporting. If we are not successful in remediating the material weakness, or if we determine in future fiscal periods that we have additional material weaknesses in our internal control over financial reporting, it could cause us to fail to meet our periodic reporting obligations or result in material misstatements in our financial statements, which in turn could lead to a decline in our stock price. See also "Item 15. Controls and Procedures."

**Risks Related to Israeli Law and Our Operations in Israel**

***For certain calendar years, we were a passive foreign investment company, or PFIC, for U.S. federal income tax purposes. There may be negative tax consequences for holders of our ordinary shares who are U.S. residents and do not make certain timely tax elections.***

We believe that we were a passive foreign investment company, or PFIC, for the years ended December 31, 2003, 2006, 2007, 2010, and 2011 (the "PFIC Years"). We nevertheless recognize that there are significant areas of uncertainty in the PFIC rules and the IRS may not agree with our belief. We are deemed to be a PFIC if 75% or more of our gross income in a taxable year, including our pro rata share of the gross income of any company, U.S. or foreign, in which we are considered to own, directly or indirectly, 25% or more of the shares by value, is passive income. We are also deemed to be a PFIC if at least 50% of our assets in a taxable year, averaged over the year and ordinarily determined based on fair market value, including our pro rata share of the assets of any company in which we are considered to own, directly or indirectly, 25% or more of the shares by value, are held for the production of, or produce, passive income.

Accordingly, for any U.S. shareholders who either: (i) held our ordinary shares during the PFIC Years, or (ii) holds shares in any subsequent year that we are deemed a PFIC that does not make an election to treat us as a "qualified electing fund," or QEF, or make a "mark-to-market" election, then "excess distributions" to a U.S. shareholder, and any gain recognized by a U.S. shareholder on a disposition of our ordinary shares, would be taxed in an unfavorable way. Among other consequences, "excess distributions" and gains on a disposition of our ordinary shares would be taxed at the highest rates applicable to ordinary income, rather than potentially lower rates for qualified dividends and long-term capital gains to non-corporate taxpayers. PFIC status is determined annually and cannot be definitively determined until the close of the year in question. In addition, if the IRS determines that we are a PFIC for a year with respect to which we have determined that we were not a PFIC, it might be too late for a U.S. shareholder to make a timely QEF or mark-to-market election. U.S. shareholders who held or hold ordinary shares during the PFIC Years will be subject to the foregoing rules, even if we cease to be a PFIC in subsequent years, subject to exceptions for U.S. shareholders who made a timely QEF or mark-to-market election.

***We are headquartered in Israel and therefore our results may be adversely affected by political, economic and military instability in Israel.***

Our principal executive offices and research and development facilities and many of our suppliers are located in Israel. Accordingly, political, economic and military conditions in Israel may directly affect our business. Since the establishment of the State of Israel in 1948, a number of armed conflicts have taken place between Israel and its Arab neighbors, as well as incidents of civil unrest. During the winter of 2008, Israel was engaged in an armed conflict with Hamas in the Gaza Strip. This conflict involved missile strikes against civilian targets in central Israel that resulted in economic losses. Although Israel has entered into various agreements with the Palestinian Authority, Israel has been and is subject to related civil unrest and Palestinian terrorist activity, with varying levels of severity, since September 2000. Tension among the different Palestinian factions may create additional unrest and uncertainty.

In addition, during 2011, riots and uprisings in several countries in the Middle East have led to severe political instability and to a decline in the regional security situation. Such instability may affect the global economy and marketplace, could negatively affect business conditions and therefore could adversely affect our operations and make it more difficult for us to raise capital.

We can give no assurance that security and political conditions will have no impact on our business in the future. Hostilities involving Israel or the interruption or curtailment of trade between Israel and its present trading partners could adversely affect our operations and could make it more difficult for us to raise capital. Ongoing and revived hostilities or other adverse political or economic developments in Israel or the region could harm our operations and product development and cause sales of any approved products to decrease. In addition, Israel and companies doing business with Israel have, in the past, been subject to economic boycotts. Several countries, principally those in the Middle East, still restrict business with Israel and Israeli companies. These restrictive laws and policies may seriously limit our ability to sell any approved products in these countries.

Our business insurance does not cover losses that may occur as a result of events associated with the security situation in the Middle East. Although the Israeli government currently covers the reinstatement value of direct damages that are caused by terrorist attacks or acts of war, there can be no assurance that this government coverage will be maintained. Any losses or damages incurred by us could have a material adverse effect on our business. Any armed conflicts or political instability in the region would likely negatively affect business conditions and could harm our results of operations.

***Our operations could be disrupted as a result of the obligation of management or key personnel to perform military service in Israel.***

Many of our male employees in Israel, are obligated to perform military reserve duty annually for extended periods of time through the age of 45 (or older for citizens with certain occupations) and, in the event of a military conflict, could be called to active duty. In response to increases in terrorist activity, there have been periods of significant call-ups of military reservists . It is possible that there will be additional call-ups in the future. Our operations could be disrupted by the absence of a significant number of our employees related to military service or the absence for extended periods of military service of one or more of our key employees.

***The government tax benefits that we are currently eligible to receive require us to meet several conditions and may be terminated or reduced in the future, which would increase our costs***.

Some of our operations in Israel have been granted "approved enterprise" status by the Investment Center in the Israeli Ministry of Industry, Trade and Labor that resulted in our currently being eligible for tax benefits under the Israeli Law for Encouragement of Capital Investments, 1959, as amended. These benefits will commence in the first year in which we produce taxable income. Pursuant to these benefits, undistributed income that we generate from our "approved enterprise" will be tax exempt for two years and, thereafter, will be subject to a corporate tax at a rate of 10%-25% for an additional five to eight years, depending on the extent of foreign investment in us. The availability of these tax benefits, however, is subject to certain requirements, including, among other things, making specified investments in fixed assets and equipment, financing a percentage of those investments with our capital contributions, compliance with our marketing program which was submitted to the Investment Center, filing of certain reports with the Investment Center and compliance with Israeli intellectual property laws. If we do not meet these requirements in the future, these tax benefits may be cancelled and we may be required to refund the amount of the benefits already received, in whole or in part, with the addition of linkage differentials to the Israeli Consumer Price Index and interest, or other monetary penalty. The tax benefits that we anticipate receiving under our current "approved enterprise" program may not be continued in the future at their current levels or at all.

***We participate in a "consortium" that may restrict the transfer of know-how that we develop.***

We are currently participating in the consortium "Rimonim," which is supported by the Office of the Chief Scientist at the Ministry of Industry, Trade and Labor of the State of Israel, or the OCS. The aim of this consortium is to develop technologies for the use of short interfering RNA, or siRNA, and microRNA mimetics for therapeutics. The consortium includes five companies and seven academic groups. The transfer of know-how developed in the framework of the consortium or rights to manufacture based on and/or incorporating such know-how to third parties which are not members of the consortium requires the consent of the OCS.

***Provisions of Israeli law may delay, prevent or impede an acquisition of us, which could prevent a change of control.***

Israeli corporate law regulates mergers, requires tender offers for acquisitions of shares above specified thresholds, requires special approvals for transactions involving directors, officers or significant shareholders and regulates other matters that may be relevant to these types of transactions. For example, a merger may not be completed unless at least 50 days have passed from the date that a merger proposal was filed by each merging company with the Israel Registrar of Companies and at least 30 days from the date that the shareholders of both merging companies approved the merger. In addition, the approval of a majority of each class of securities of the target company is required to approve a merger.

Furthermore, Israeli tax considerations may make potential transactions unappealing to us or to our shareholders whose country of residence does not have a tax treaty with Israel exempting such shareholders from Israeli tax. For example, Israeli tax law does not recognize tax free share exchanges to the same extent as U.S. tax law. With respect to mergers, Israeli tax law allows for tax deferral in certain circumstances but makes the deferral contingent on the fulfillment of numerous conditions, including a holding period of two years from the date of the transaction during which sales and dispositions of shares of the participating companies are restricted. Moreover, with respect to certain share swap transactions, the tax deferral is limited in time, and when the time expires, tax then becomes payable even if no actual disposition of the shares has occurred.

These provisions could delay, prevent or impede an acquisition of us, even if such an acquisition would be considered beneficial by some of our shareholders.

***It may be difficult to enforce a U.S. judgment against us, our officers and directors or to assert U.S. securities law claims in Israel.***

We are incorporated in Israel. Most of our executive officers and directors are not residents of the United States, and a majority of our assets and the assets of these persons are located outside of the United States. Therefore, it may be difficult to enforce a judgment obtained in the United States, against us or any of these persons, in U.S. or Israeli courts based on the civil liability provisions of the U.S. federal securities laws. Additionally, it may be difficult to enforce civil liabilities under U.S. federal securities laws in original actions instituted in Israel.

***Being a foreign private issuer exempts us from certain SEC and NASDAQ requirements.***

We are a "foreign private issuer" within the meaning of rules promulgated by the SEC. As such, we are exempt from certain provisions applicable to U.S. public companies including:

- the rules under the Exchange Act requiring the filing with the SEC of quarterly reports on Form 10-Q and current reports on Form 8-K;

- the sections of the Exchange Act regulating the solicitation of proxies, consents or authorizations in respect of a security registered under the Exchange Act;

- the provisions of Regulation FD aimed at preventing issuers from making selective disclosures of material information; and

- the sections of the Exchange Act requiring insiders to file public reports of their stock ownership and trading activities and establishing insider liability for profits realized from any "short-swing" trading transaction (a purchase and sale, or sale and purchase, of the issuer's equity securities within less than six months).

In addition, under the rules and regulations of The NASDAQ Stock Market, a foreign private issuer may follow its home country practice in lieu of certain NASDAQ listing requirements. For example under NASDAQ's rules, each of (1) the private placement completed in December 2010, (2) the concurrent private placement and registered direct offering completed in February 2011, (3) the private placement completed in October 2011 and (4) the convertible debt transaction completed in January 2012, would have required shareholder approval because these offerings represented the issuance (or potential issuance) of more than 20% of our outstanding ordinary shares at a price per share below the greater of book value per share or market value per share. However, we chose to follow our home country practice, which did not require shareholder approval of these offerings. Because of these SEC and NASDAQ exemptions, investors are not afforded the same protections or information generally available to investors holding shares in public companies organized in the United States.

**Risks Related to Our Ordinary Shares**

***Our stock price has been and is likely to continue to be volatile and the market price of our ordinary shares may drop.***

Prior to our February 2007 initial public offering, there was not a public market for our ordinary shares. There is a limited history on which to gauge the volatility of our stock price; however, since our ordinary shares began trading on NASDAQ on February 27, 2007 through March 28, 2012, our stock price has fluctuated from a low of $0.13 to a high of $41.32. Furthermore, the stock market has recently experienced significant volatility, particularly with respect to pharmaceutical, biotechnology, and other life sciences company stocks. The volatility of pharmaceutical, biotechnology, and other life sciences company stocks often does not relate to the operating performance of the companies represented by the stock. Some of the factors that may cause the market price of our ordinary shares to fluctuate include:

- failure of any of our diagnostic tests to achieve commercial success;

- introduction of technological innovations or new commercial products by us or our competitors;

- our entry into new, or termination or other developments relating to our existing, collaboration, distribution and licensing agreements;

- developments relating to our efforts to commercialize our tests in the United States;

- regulatory developments in the United States and foreign countries;

- developments or disputes concerning patents or other proprietary rights;

- failure to secure adequate capital to fund our operations, or the issuance of equity securities at prices below fair market price;

- changes in estimates or recommendations by securities analysts, if any cover our securities;

- litigation;

- future sales of our ordinary shares;

- general market conditions;

- changes in the structure of healthcare payment systems;
- economic and other external factors or other disasters or crises;
- period-to-period fluctuations in our financial results; and
- overall fluctuations in U.S. equity markets.

These and other external factors may cause the market price and demand for our ordinary shares to fluctuate substantially, which may limit or prevent investors from readily selling their shares and may otherwise negatively affect the liquidity of our ordinary shares. In addition, in the past, when the market price of a stock has been volatile, holders of that stock have instituted securities class action litigation against the company that issued the stock. If any of our stockholders brought a lawsuit against us, we could incur substantial costs defending the lawsuit. Such a lawsuit could also divert the time and attention of our management.

***Our ordinary shares are at risk for delisting from The NASDAQ Capital Market.***

Our ordinary shares are currently listed on The NASDAQ Capital Market, having moved from The NASDAQ Global Market on June 30, 2010. On November 29, 2011, we received notice from the Listing Qualifications Staff of NASDAQ indicating that the bid price of our ordinary shares had closed below the minimum $1.00 per share threshold set forth in NASDAQ Listing Rule 5550(a)(2) for the prior 30 consecutive business days and, in accordance with the NASDAQ Listing Rules, the Staff had granted us a 180 calendar day period, through May 29, 2012, to regain compliance with that requirement. We may achieve compliance with NASDAQ's bid price requirement by evidencing a closing bid price of at least $1.00 per share for a minimum of 10 consecutive business days on or before May 29, 2012. In addition, should we satisfy the continued listing requirement for market value of publicly held shares ($1 million) and all other criteria for initial listing on The NASDAQ Capital Market (except for the bid price requirement) as of May 29, 2012, we will be entitled to a second 180-calendar day period to regain compliance with the minimum bid price requirement. If we do not regain compliance during the 180-day compliance period and are not eligible for a second 180-day compliance period, the Staff will provide us with written notice that our ordinary shares are subject to delisting. However, in such event, we may appeal the Staff's determination to a Panel. The filing of an appeal would stay any delisting action until the Panel renders a determination following a hearing.

In addition, one of the continued listing requirements for The NASDAQ Capital Market is maintaining stockholders' equity of at least $2.5 million. As disclosed in the financial statements included in this Annual Report, as of December 31, 2011 our stockholders' deficiency of $356,000. Accordingly, we expect to receive a notification letter from NASDAQ indicating that our stockholders' equity as reported in this Annual Report no longer meets the minimum amount of $2.5 million required for continued inclusion on The NASDAQ Capital Market pursuant to NASDAQ Listing Rule 5550(b)(1). We will be granted an opportunity to submit a plan to NASDAQ for regaining compliance with the minimum stockholders' equity requirement, however there can be no assurance that NASDAQ will accept such plan and grant our request for an extension to regain compliance with Listing Rule 5550(b)(1).

If we fail to meet the continued listing requirements of The NASDAQ Capital Market and our ordinary shares are delisted, we would expect trading in our ordinary shares to be conducted on the OTC Bulletin Board, or OTCBB, as long as we continue to file reports required by the SEC. The OTCBB is generally considered to be a less efficient market than The NASDAQ Capital Market, and our stock price, as well as the liquidity of our ordinary shares, could be adversely affected as a result. Delisting would also negatively impact our ability to sell our ordinary shares and secure additional financing. Furthermore, delisting from The NASDAQ Capital Market, would result in the right of the holders of the debentures we issued in January 2012 to redeem the debentures with 90 days written notice.

## ITEM 4. INFORMATION ON THE COMPANY

### *A. HISTORY AND DEVELOPMENT OF THE COMPANY*

**History**

We were incorporated under the laws of the State of Israel on March 9, 2000 as Rosetta Genomics Ltd., an Israeli company. The principal legislation under which we operate is the Israeli Companies Law, 5759-1999, as amended (referred to herein as the "Companies Law"). Our principal executive office is located at 10 Plaut Street, Science Park, Rehovot 76706 Israel, and our telephone number is + 972-73-222-0700. Our wholly owned subsidiary, Rosetta Genomics Inc., which was incorporated in Delaware on April 21, 2005, is located at 3711 Market Street, Suite 740, Philadelphia, Pennsylvania 19104, and its telephone number is (215) 382-9000. Rosetta Genomics Inc. serves as our agent for service of process in the United States. Our web site address is *www.rosettagenomics.com*. The information on our web site is not incorporated by reference into this Annual Report and should not be considered to be a part of this Annual Report.

On February 4, 2010, we established Rosetta Green Ltd., an Israeli Company, as a controlled subsidiary. As of December 31, 2010, we owned approximately 76.2% of the outstanding ordinary shares of Rosetta Green. In February 2011, Rosetta Green completed an initial public offering in Israel on the Tel Aviv Stock Exchange, or TASE. In December 2011, we sold our complete ownership

interest in Rosetta Green, which represented approximately 50.03% of the outstanding ordinary shares of Rosetta Green. We received an upfront payment of $900,000 for the Rosetta Green ordinary shares. In addition, we could be entitled to a payment of $2,000,000 if Rosetta Green is acquired within three years and if certain other conditions are met in connection with such acquisition.

On July 22, 2008, through Rosetta Genomics Inc., we purchased all of the shares of Parkway Clinical Laboratories, Inc., a privately held Pennsylvania corporation owning a CLIA-certified laboratory, for an aggregate purchase price of $2,900,000 (not including $207,000 of transaction expenses), consisting of $1,900,000 in cash and $1,000,000 of our ordinary shares, plus an additional $300,000 payable upon the achievement of certain milestones, which were not met. Parkway remained an indirect wholly owned subsidiary until May 18, 2009, when we sold Parkway for up to $2,500,000, to be paid as a fixed percentage from the revenues over six years. With its CLIA certification, Parkway helped us to obtain CLIA certification for our laboratory in Philadelphia, Pennsylvania.

**Principal Capital Expenditures**

We had net capital expenditures and repayment of capital lease of $422,000 in 2011, $579,000 in 2010 and $245,000 in 2009. Our capital expenditures during 2011, 2010 and 2009 consisted primarily of laboratory equipment, computer equipment and leasehold improvements. We have financed our capital expenditures with cash generated from financing activities.

**B. BUSINESS OVERVIEW**

**Overview**

We are seeking to develop and commercialize new diagnostic tests based on a recently discovered group of genes known as microRNAs. MicroRNAs are naturally expressed, or produced, using instructions encoded in DNA and are believed to play an important role in normal function and in various pathologies. We have established a CLIA-certified laboratory in Philadelphia, which enables us to develop, validate and commercialize our own diagnostic tests applying our microRNA technology.

We believe that we were the first commercial enterprise to focus on the emerging microRNA field, and that as a result, we have developed an early and strong intellectual property position related to the development and commercialization of microRNA-based diagnostics. Using our intellectual property, collaborative relationships with leading commercial enterprises and academic and medical institutions, and expertise in the field of microRNAs, we have initiated microRNA-based diagnostic programs for various cancers. In late-2008, we launched our first three diagnostic tests applying our microRNA technology:

1. miRview® mets - for identification of the origin of the primary tumor of metastases;

2. miRview® squamous - for differentiating squamous from non squamous non-small cell lung cancer; and

3. miRview® meso - for differentiating mesothelioma from carcinomas in the lung and pleura.

In December 2010, we launched our fourth product - miRview® mets$^2$ which expands the utility of our miRview® mets test.

In July 2011, we launched our fifth product - miRview® lung – for differentiating primary lung cancers into four types: squamous lung cancer, non squamous non-small cell lung cancer, carcinoid lung cancer and small cell lung cancer.

We are currently in the process of launching our sixth product - miRview® kidney – for differentiating four histological types of renal or kidney tumors.

We currently have distribution agreements with respect to some of these tests covering Australia, Canada, Greece, India, Israel, New Zealand, Qatar, Saudi Arabia, Singapore, Turkey and the United Arab Emirates. All of these distribution agreements call for samples to be sent to our CLIA-certified laboratory in Philadelphia for analysis.

Generally speaking, we are generating increasing demand for our testing services, primarily miRview® mets$^2$, through our direct selling effort in the United States and are successfully fulfilling that demand in our lab in Philadelphia, Pennsylvania, and we are working, with our reimbursement vendor and consultants, to gain more consistent payment from commercial payors as well as to secure reimbursement coverage from Medicare.

In addition, we are in the discovery stage for a body fluid-based diagnostic test for Heart Failure (HF). We have performed a proof of concept (POC) study which demonstrated that by using microRNA expression levels in blood we can identify heart failure patients. We are currently performing additional studies to assess the feasibility to develop a minimally-invasive microRNA-based stratification test for HF.

MicroRNAs also represent potential targets for the development of novel drugs. We are participating in the Rimonim Consortium, which is supported by the Office of the Chief Scientist at the Ministry of Industry, Trade and Labor of the State of Israel, or the OCS. The aim of this consortium is to develop technologies for the use of short interfering RNA, or siRNA, and microRNA mimetics for therapeutics. In this consortium we will develop novel microRNA mimetic molecules with novel chemical modifications, as well as novel delivery systems for microRNAs. The consortium includes five companies and seven academic groups. The transfer of know-how developed in the framework of the consortium or rights to manufacture based on and/or incorporating such know-how to third

parties which are not members of the consortium requires the consent of the OCS. See also “Item 4.B. Business Overview – Rimonim Consortium.”

**Background**

Rosetta Genomics was founded in 2000 with the belief that what was known as “junk DNA” actually contains hundreds, possibly thousands, of tiny RNA genes that encode small RNA molecules, later termed microRNAs, which play an important role in the regulation of protein production, and hence the onset and progression of disease. In the cell, genes are expressed through information carried from our DNA by messenger RNAs, or mRNAs, which is in turn translated into proteins. Proteins are the building blocks of all living cells. The type of cell, its function, and the timing of its death are determined by which proteins are produced in the cell, and at what quantities and time they are produced. However, the proteins are the end product of a complex process which begins with the genetic code present in DNA. Before a protein is expressed, or produced, relevant parts of the DNA are copied into a mRNA. Each mRNA holds a code with instructions on how to build a specific protein using a process called translation. Although one messenger RNA molecule is capable of translating hundreds of thousands of protein molecules, the number it actually produces is regulated by microRNAs. MicroRNAs have been found to regulate the expression of other genes by binding to the mRNA.

MicroRNAs have been shown to have varying expression levels across various pathological conditions, and thus have significant potential as a new class of highly sensitive and tissue specific biomarkers. We have developed a microRNA discovery process and have demonstrated, in a work published by us in Nature Genetics that the number of human microRNAs is significantly higher than what was previously believed. We have discovered hundreds of biologically validated human microRNAs and dozens of validated viral microRNAs and filed extensive patent applications with claims potentially covering these microRNAs, some of which have been issued.

To leverage the potential of microRNAs as a novel diagnostic platform, we have developed proprietary methods to extract microRNAs from a wide range of tissue and body fluid samples and to quantify specific microRNA expression signatures, which may be used as diagnostic panels to potentially diagnose cancers, their subtypes, as well as the origin of metastases. We have already developed and launched five diagnostic tests based on our platforms and have published several papers demonstrating how our methods can be used to develop such diagnostics (E.g. Rosenwald et al., Modern Pathology, 2010; Benjamin et al., Journal of Molecular Diagnostics, 2010). Moreover, we were able to demonstrate the utility of our developed tests in post-market studies with collaborators from leading medical centers in the United States and Europe (Bishop et al. Clinical Cancer Research, 2010; Muller et al., The Oncologist, 2010).

We believe that microRNAs are stable, sensitive and specific markers, and we are advancing diagnostic development programs in cancer and other areas, to potentially enable accurate diagnosis and improve patient care management worldwide.

**Our Strategy**

Rosetta's goal is to become a leader in the development and commercialization of microRNA-based diagnostic tests. Our key business strategies to achieve this goal are as follows:

- *Leverage our knowledge and experience*. We plan to leverage our extensive microRNA knowledge and experience to potentially develop body fluid-based diagnostic tests. We have recently prioritized the discovery projects of potential microRNA biomarkers for one new indication and we believe body fluid-based tests have the potential to be an important part of our longer-term pipeline.

- *Maximize sales of our first five commercial tests through geographic partners*. We plan to maximize revenues from our five current commercial tests via corporate relationships and through our own targeted commercial efforts. To date we have entered into distribution agreements with five distributors, pursuant to which these distributors have the right to commercialize these tests in their territory. We intend to support the work of these partners while pursuing other partnerships for additional geographies.

- *Build and maintain a strong intellectual property position.* We believe that we were the first commercial enterprise to focus on the emerging field of microRNAs. We also believe we have an early and strong intellectual property position (both patents we own and those we have exclusively, or co-exclusively licensed) in the area of developing and commercializing microRNA-based diagnostic tests. Our patent strategy is to seek broad coverage on all of our identified microRNA sequences. We have also filed, and intend to continue to file, patent applications that claim our technical platforms and method-of-use for specific diagnostic and therapeutic applications.

- *Leverage our intellectual property position and microRNA expertise to continue to establish strategic collaborations.* We intend to continue to establish strategic collaborations with leading clinical diagnostic and pharmaceutical companies to further develop and commercialize microRNA-based diagnostics. We believe that our strong intellectual property position and expertise in the field of microRNAs will be very attractive to additional collaboration partners.

**Our Diagnostic Tests**

***The Role of MicroRNAs in Diagnostic Products***

Ideally, diagnostic tests provide physicians and their patients with information relating to one or more of the following:

- the existence or the probability of developing disease;

- the exact type of the disease;
- the severity of the disease;
- the potential efficacy of specific therapies, such as different drugs or therapeutic procedures;
- the monitoring of success of a chosen therapy; or
- the likelihood of disease recurrence.

We believe that using microRNAs as diagnostic biomarkers will enable the development of diagnostic products that can provide more accurate and comprehensive information to doctors and patients. Currently, many diagnostic tests are designed to detect abnormal levels of messenger RNAs or proteins. We believe microRNA-based tests have the potential to be superior to these tests because it is believed that microRNAs are closer to the biological origin of disease and many studies have shown their involvement in disease processes, including the demonstration that microRNAs are both diagnostic and prognostic markers. A change in the expression level of a single microRNA may affect the activity of dozens of messenger RNA genes, which in turn may affect the concentration of hundreds of proteins. In addition, microRNAs are very tissue specific and very stable in body fluids and tissue samples. Thus, we expect that by focusing our efforts on microRNAs, we can develop a less complex biomarker panel, resulting in a more specific and sensitive test. Furthermore, extracting microRNAs from tissue and body fluid samples is more reliable than extracting messenger RNAs because of the greater stability of microRNAs. In addition, amplification technologies, such as PCR, can potentially increase the sensitivity of a microRNA-based diagnostic test by generating millions of copies of a particular microRNA and thereby making it easier for the test to detect the presence of the microRNA. Since amplification technologies cannot be used with proteins, we believe microRNA-based diagnostic tests have the potential to be more sensitive than protein-based diagnostic tests.

***Our Diagnostic Product Development Process***

Our development process for diagnostic products consists of the following important steps:

- *Access to samples.* As a prerequisite for the development and clinical validation of diagnostic products, evaluation of clinical samples is critical. Accordingly, we have entered into collaborations with several institutions in Israel, Europe and the United States that provide us high quality clinical samples. These relationships provide us the opportunity to study thousands of well-characterized samples relevant to different disease areas such as cancer, cardiovascular indications, women's health and neurodegenerative diseases. The sample collections include solid tumor samples and various body fluids such as blood , as well as high quality tissue samples from archival pathology banks. Where relevant, samples are accompanied by a database of medical history and clinical information, such as diagnosis, treatment and response to treatment, recurrence and survival, which for the samples from the archival pathology banks can be as long as 20 years.

- *RNA extraction.* We utilize both commercial and our proprietary technologies to extract microRNAs from both tissue and body fluid samples.

- *Expression profiling.* The identification of microRNA biomarkers requires sensitive and specific measurements of the levels of the microRNAs extracted from the tissue or body fluid samples. We have developed proprietary methods to rapidly, robustly and accurately perform these measurements. Our methods allow us to perform simultaneous profiling of multiple samples, and we believe result in more accurate measurements of expression levels for each of the analyzed samples.

- *Analysis.* We analyze expression profiles to identify microRNA signatures which detect the existence of disease and provide information on certain disease parameters, such as tumor subtype, tumor origin, tumor aggressiveness, response to treatment, and risk of recurrence. Identifying microRNA signatures is a complex task, and we believe our analytical expertise is one of our key advantages.

***Current Commercial Tests***

To date, we have commercially launched the following five tests based on our proprietary microRNA technologies:

- *miRview® mets* – This test is a microRNA-based diagnostic for the identification of the primary site of metastatic cancer, specifically metastatic cancer of unknown primary (CUP). CUP is a heterogeneous group of cancers that constitutes 3-5% of all cancers with a poor median survival of six to ten months. Each year approximately 70,000 patients in the United States are diagnosed with CUP. A patient is typically diagnosed with CUP only after undergoing a wide range of tests, including various imaging tests such as x-ray, CT, MRI, and PET, which have failed to identify the origin of the cancer. Presently, the choice of treatment for metastatic cancer is largely dependent on the nature of the primary tumor. Patients with CUP pose a therapeutic dilemma and treatment is often empiric with a "one treatment fits all" approach. In the era of rapidly growing effective cytotoxic and targeted therapies for known cancers, quicker and more accurate methods to identify the tissue of origin of CUP cancers would permit the use of these therapies, thereby improving the chances of achieving a response and

possibly extending the patient's survival. miRview® mets offers physicians a fast, accurate and easy-to-interpret diagnosis of the predicted primary origin of 25 cancers.

- *miRview® mets$^2$* – This test is an expansion of our miRview® mets test. The improved test is a microarray-based test that is able to identify 42 tumor types that include carcinomas, soft tissue tumors, lymphoma and other malignancies with very high accuracy.

- *miRview® squamous* – This test differentiates squamous from non-squamous non-small cell lung cancer. Lung cancer is the leading cause of cancer-related death in both men and women worldwide and in the United States. Non-small-cell lung cancer, or NSCLC, is composed mostly from squamous cell carcinoma and adenocarcinoma histological types and accounts for nearly 85% of lung cancer cases. In the past, the only diagnostic branch point in the classification of lung cancers that carried any therapeutic relevance was the distinction between small cell carcinoma and non-small cell carcinoma. The recent emergence of novel biological therapies that effectively target specific cellular alterations now demands the most precise classification possible for non-small cell carcinomas. For example, lung adenocarcinomas are more likely to respond to EGFR tyrosine kinase inhibitors (e.g. erlotinib). Similarly, antibody therapy (bevacizumab) directed against vascular endothelial growth factor (VEGF) is more effective in the treatment of adenocarcinomas. Not only is bevacizumab less effective in treating squamous cell lung cancers, but the squamous phenotype is associated with much higher rates of life-threatening pulmonary hemorrhage. Thus, the distinction of squamous from non-squamous carcinomas is becoming increasingly important. Current methods for differentiating squamous from non-squamous NSCLC are not standardized, are difficult to reproduce and have an unacceptable level of variability between pathologists and laboratories, as indicated in numerous peer review publications. miRview® squamous produces a single score that clearly indicates whether a sample is squamous or non-squamous NSCLC. It is estimated that about 60,000 lung cancer patients who are candidates for targeted therapy may potentially use this test.

- *miRview® meso* – This test leverages microRNA's high-specificity as biomarkers to differentiate mesothelioma, a cancer connected to asbestos exposure and other risk factors, from other carcinomas in the lung and pleura, a medically and legally important differential diagnosis. Malignant pleural mesothelioma, or MPM, is a solid, locally aggressive tumor of the lung pleura that covers and later invades the lung parenchyma, which leads to a severe clinically symptomatic disease. The incidence of mesothelioma has clearly grown in recent years in all developed countries of Western Europe and North America, and most probably in developing countries as well. Exposure to asbestos is still a major factor that contributes to the continuing growth in number of cases. As mesothelioma patients require specific treatment regimens, an accurate diagnosis is critical. However, the distinction between mesothelioma and carcinomas that involve the pleura, in particular peripheral pulmonary adenocarcinoma, can be challenging. Because of the inter-observer variations between pathologists, and because of the absence of a single specific and reliable biomarker for the diagnosis of mesothelioma, there is a need for a reliable and objective assay that would help make this distinction with greater confidence. We used microRNA biomarkers we identified to develop miRview™ meso, a molecular assay for the differential diagnosis of mesothelioma. This assay provides a standardized, quantitative alternative to the currently applied methods. The small number of microRNAs needed for classification, the high tissue specificity of these microRNAs and the ease of their determination from archival fixed tissues embedded in paraffin, makes this assay a practical option. The microRNA-based assay that we have developed, uses expression levels of only three microRNAs, and is able to accurately diagnose mesothelioma and distinguish it from lung adenocarcinoma and other malignancies involving the lung and pleura with very high sensitivity and specificity. This assay is simple to perform and highly reliable in its reproducibility.

- *miRview® lung* - This test is a microRNA-based lung cancer classification test for cytology samples, mainly fine-needle aspirate , or FNA, samples as well as pathology samples, such as small biopsies and resections. The test targets all newly diagnosed lung cancer patients, estimated to be more than 200,000 people annually in the United States alone. The test classifies primary lung cancers into Neuroendocrine vs. NSCLC and then further classifies NSCLC into squamous vs. non-squamous and Neuroendocrine into Small Cell Lung Cancer (SCLC) vs. carcinoid. The microRNA-based assay that we have developed is performed by measuring microRNA biomarkers in a sample from the tumor, where the sample can be either a cytology sample or a pathology sample. The assay measures the expression of 8 microRNAs and using that expression accurately identifies the lung cancer subtype.

  Lung cancer is the leading cause of cancer-related death in both men and women worldwide and in the United States. It is estimated that in the United States alone, there were 222,520 new cases of lung cancer diagnosed in 2010 and that approximately 157,300 people will die of the disease this year.

  For patients with lung carcinoma, the accurate determination of tumor type significantly influences treatment decision. In general, SCLC, the main sub-type of Neuroendocrine tumors, is much more responsive to chemotherapy and consequently this comprises the mainstay of treatment. This is in contrast to NSCLC which is relatively chemoresistant and thus primarily treated with surgical resection for local disease.

We currently have the following distribution agreements relating to *miRview® mets miRview® squamous* and *miRview® meso*:

- with Teva Pharmaceutical Industries Ltd., pursuant to which Teva has the right to distribute these tests in Turkey and Israel;

- with Warnex Medical Laboratories, a division of Warnex, Inc., pursuant to which Warnex has the exclusive right to distribute these tests in Canada;

- with Genekor S.A., pursuant to which Genekor has the exclusive right to distribute these tests in Greece;

- with Super Religare Laboratories Limited (SRL), pursuant to which SRL has the non-exclusive right to distribute these tests in India, Saudi Arabia, Qatar and the United Arab Emirates; and

- with Genetic Technologies Limited (GTL), pursuant to which GTL has the non-exclusive right to distribute these tests in Australia, New Zealand and Singapore.

On June 9th, 2011 we entered into an agreement with PACE claims services, LLC, a wholly owned subsidiary of Navigant Inc. (PACE), according to which, PACE will provide us exclusive educational and marketing services to defendants involved in lawsuits relating to malignant pleural mesothelioma and asbestos exposure, provided the exclusivity does not apply to our own marketing efforts and to any marketing efforts of our distributors offering our tests outside of the United States of America. According to this agreement, PACE will be entitled to certain remuneration derived from actual sales to defendants in these lawsuits.

All of these distribution and other agreements call for samples to be sent to our CLIA-certified laboratory in Philadelphia for analysis. Our goal is through distribution agreements to provide access to our products to up to 1.5 billion people around the globe by the end of this year.

***Our Near-term Pipeline***

We are focusing in the near-term on the development and commercialization of the following new diagnostic test based on microRNAs:

- *miRview® kidney* – We have completed development and validation of a microRNA-based kidney tumor classification test for pathology samples. This test would potentially target all newly diagnosed kidney tumor patients, estimated to be more than 54,000 people annually in the United States. Renal cancers account for more than 3% of adult malignancies and cause more than 13,000 deaths per year in the United States. The test was designed to classify primary kidney tumors into one of the four most common types: the malignant renal cell carcinomas clear cell (conventional), papillary and chromophobe as well as the benign oncocytoma. These histological subtypes vary in their clinical course and their prognosis, and different clinical strategies have been developed for their management. In some of the kidney tumor cases it is difficult for the pathologist to distinguish between tumor types on the basis of morphology. The microRNA-based assay that we have developed is performed by measuring microRNA biomarkers in a sample from the tumor. The assay uses the expression of 24 microRNAs to accurately identify the kidney tumor subtype. We can now test patients using the miRview® kidney test in all states except NY, and we anticipate completing the launch of this test during the second half of 2012.

***Our Long-term Pipeline***

We believe that body fluid-based tests for early diagnosis and/or stratification of patients in different diseases are the future of the diagnostics industry and that our highly sensitive and specific platforms are suitable for development of such tests. Thus, we expect to continue to search for microRNA biomarkers in order to develop body fluid-based tests for different indications.

We have recently prioritized the development of the following body fluid based diagnostic test, based on microRNA's:

- *Heart Failure* - We are seeking to discover blood-based microRNA biomarkers in order to develop a new diagnostic test for early diagnosis and refined risk stratification of patients following Myocardial Infarction (MI). Such a test has the potential to influence clinical management in a cost effective manner, by improving diagnosis, refining risk stratification and guiding therapy. Heart Failure (HF) is a complex clinical syndrome that can result from any structural or functional cardiac disorder that impairs the ability of the ventricles to fill with or eject blood. It is the most prevalent disease in the western world and the only cardiovascular disease whose prevalence continues to rise. It is estimated that 5 million Americans are diagnosed with HF and each year there are ½ million new HF patients. Besides its high prevalence, HF is also the most expensive disease in western countries. We have so far performed a first study, which was published in the European Journal of Heart Failure (Goren et. al. , 2012), showing that elevated serum levels of specific microRNAs identify heart failure patients.

**Therapeutic Products**

MicroRNAs are important regulators of protein production, and as such, they represent potential targets for the development of drugs. Important information about the role of a microRNA in a disease can be deduced by mimicking or inhibiting its activity and examining the impact this has on the phenotype of the cell or organism. If mimicking or inhibiting a microRNA leads to improvement in disease symptoms, this implies that the target microRNA plays an important role in the disease and thus, can serve as potential drug target. The pharmaceutical industry has traditionally focused on the development of drugs that inhibit specific protein activity because of the difficulties in developing drugs that enhance protein activity or increase protein levels. Even siRNAs, a novel class of drugs, are limited to the inhibition of protein production. In contrast, because microRNAs are natural regulators of protein production, we believe it is possible to develop microRNA-based therapeutic products which can either increase or decrease the levels of proteins. A drug that mimics a microRNA should result in decreased levels of the proteins naturally regulated by that microRNA, while a drug that inhibits the microRNA should result in increased levels of those proteins. We believe that microRNAs can serve as a basis for a new class of therapeutic products and that we can leverage our microRNA diagnostic capabilities to help develop drugs targeting microRNAs.

We have demonstrated this in both ovarian cancer and pancreatic cancer, where differential microRNAs that were shown in tissues of patients were used to find drug candidates that could inhibit those cancers through either miR inhibition or mimetics. In ovarian cancer we chose microRNAs that were over-expressed in ovarian tissues (both tumor and normal) comparing to other normal tissues, and in pancreatic cancer we chose microRNAs that are over expressed in the cancerous tissue comparing to adjacent healthy pancreatic tissue. Those microRNAs served to help us design modified oligonucleotides with anti-sense sequences that were used in in vitro proliferation assays. We specifically wanted to see miR inhibition that can lead to reduction in proliferation of cancer cell lines. The anti-miRs with the strongest effect over cell proliferation were chosen as the drug candidates with most potential. We are currently looking for strategic collaborations to pursue the further development of those drug candidates.

***Rimonim Consortium***

In January 2011, we joined the Rimonim Consortium, which is supported by the Office of the Chief Scientist at the Ministry of Industry, Trade and Labor of the State of Israel, or the OCS. The purpose of the consortium is to develop RNA interference, or RNAi, -based therapeutics. As of the date of this report, we had received total grants of $216,000from the OCS for our development under the consortium. The vision of the consortium is to develop new advanced technologies that are expected to help in solving some of the key problems and deficiencies that the industry is facing in developing RNAi-based therapeutics and create a significant RNAi-based industry in Israel by using breakthrough technologies and producing RNAi therapeutics and a range of additional products (diagnostics, chemical and biological services). Since discovery, the development of RNAi to first, a powerful research tool and, more recently, to a promising therapeutic approach, has occurred very rapidly. The ability to specifically silence virtually every gene including previously non-druggable (non-amenable for development of small molecule inhibitors) targets has made RNAi-based therapeutics a very attractive approach for treating diseases in many therapeutic areas.

The main challenges in the development of siRNA/miRNA therapeutics addressed by the consortium are:

1. siRNA/miRNA drug substance: Only a very limited number of non-toxic chemical modifications to the basic structures that are suitable to make the drug active and with the desirable properties are available.

2. siRNA/miRNA drug delivery to target tissues/cells: This is the major problem in the field. Practically all RNAi drugs in development are currently delivered only locally, and even the local delivery is not optimized. Efficient and productive systemic siRNA delivery has been demonstrated only to the kidney (non-formulated) and to the liver (formulated), whereas systemic delivery is needed for many serious diseases. In addition, most formulations currently available are highly toxic thus, allowing only very narrow therapeutic windows.

Members of the consortium, are established representatives of the industry and academia in Israel that will share their expertise and experience in various fields of the technological challenges: biology, toxicology, physical and structural chemistry, formulation, and others, to establish a meaningful scientific/technological basis for what has the potential to be one of the most promising technical breakthroughs in biological research in the last decade.

The transfer of know-how developed in the framework of the consortium or rights to manufacture based on and/or incorporating such know-how to third parties which are not members of the consortium requires the consent of the OCS.

**Rosetta Green**

Rosetta Green Ltd. is an Israeli subsidiary we established to leverage our capabilities into the areas of cleantech and plant biotech by using our proprietary microRNA technologies to develop plants and algae more suitable for various applications such as improved feedstocks for biofuels and advanced agriculture. Prior to the establishment of the Rosetta Green subsidiary, our efforts in this field were through a separate Rosetta Green project within Rosetta Genomics. Research at the Rosetta Green project has been shown to develop algal strains with potentially increased oil content, to discover potential novel microRNAs from commercially-important algae and to identify drought-regulated microRNAs in plants.

On September 24, 2008, we signed a convertible note purchase agreement with certain private investors in order to provide separate funding for our Rosetta Green project, in an amount of up to $2,500,000. The investors invested a total amount of $1,500,000, in two tranches. The notes were convertible upon the establishment of a subsidiary by us for the Rosetta Green project. We established Rosetta Green Ltd. in February 2010, and the outstanding notes were subsequently converted into ordinary shares of Rosetta Green. On February 17, 2011, Rosetta Green completed an initial public offering in Israel, and on February 23, 2011, Rosetta Green's ordinary shares started trading on the Tel Aviv Stock Exchange (TASE) under the ticker symbol RSTG.

In the initial public offering, Rosetta Green sold 136,200 units at NIS 160.8 ($44.51 based on an exchange rate of 3.613 NIS for US dollars on February 17, 2011, per unit, with each unit comprised of 25 ordinary shares, 25 Warrants 1 and 25 Warrants 2, and a total of 3,405,000 ordinary shares, 3,405,000 Warrants 1 and 3,405,000 Warrants 2. The Warrants 1 are exercisable at NIS 8.04 ($2.23) until February 8, 2013 and the Warrants 2 are exercisable at NIS 9.65 ($2.67) until February 8, 2015. The underwriters of the offering purchased 37,983 units for a total of NIS 6,107,666 ($1.69 million).

In connection with the initial public offering, we entered into an agreement with a minority shareholder of Rosetta Green, pursuant to which we had agreed not to sell any Rosetta Green shares for a period of 12 months following consummation of the initial public offering and thereafter until 24 months following consummation of the initial public offering, we will be entitled to sell up to 1% of the shares of Rosetta Green owned or controlled by us as of November 2010 ("Green Shares") per month (which may be carried over for up to three months). We further granted the minority shareholder certain Co-Sale rights with respect to the sale of the Green Shares in an off-market transaction. In addition, according to the agreement, the number of members of the board of directors of Rosetta Green will be not more than seven and at least one third of the directors but not less than three directors (including the external directors required to be appointed pursuant to the Companies Law which in any case will not be less than two) will qualify as independent directors as such term is defined in the Companies Law. We also agreed to vote the Green Shares in favor of the election to the board of directors of one nominee proposed by the minority shareholder as long as such shareholder continues to hold 50% or more of shares of Rosetta Green owned or controlled by it as of November 2010.

On January 14, 2010 we applied for the Rosetta Green division to participate in a consortium funded by the European Union which is part of the Seventh Framework Programme ("FP7"). The subject matter of the program is the development of microalgae for industrial purposes. In addition to us there are additional 10 participants in FP7. On December 14, 2010 we entered into the consortium agreement with the other participants in the consortium and the European Union in relation to the funding of the FP7. The expected funding under this program will be 499,000 Euros and we must contribute up to 150,000 Euros for the project. On July 5, 2011, the European Commission approved the amendment to the contract so that we are no longer party to the contract within the FP7 and Rosetta Green has taken our place as party to said contract. As part of said assignment, Rosetta Green has undertook, in a letter dating 29 May 2011, "all rights and duties that Genomics has agreed to perform as part of GIAVAP agreement."

On November 18th 2010 we entered into a license agreement with Rosetta Green according to which we have assigned certain patents relating to microRNAs in plants. We further provided Rosetta Green with a non exclusive license to some of our patents and technologies. For this license we shall be entitled to certain consideration derived from Rosetta Green's net sales as well as royalties from Rosetta Green's license income.

On December 16, 2011, we closed a transaction pursuant to which we sold all of the ordinary shares of Rosetta Green held by us (50.03% of the outstanding ordinary shares) to certain purchasers (the "Purchasers"). The transaction was effected pursuant to a Share Transfer Agreement, dated December 13, 2011. Under the terms of the share transfer agreement, we received an upfront payment of $900,000 for the Rosetta Green ordinary shares. In addition, we could receive an additional payment of $2,000,000 if Rosetta Green is acquired within three years from the date of signing of the share transfer agreement and if certain other conditions are met.

**Our Intellectual Property Strategy and Position**

Our success will depend significantly on our ability to:

- obtain and maintain patent and other proprietary protection for the technology, inventions and improvements we consider important to our business;
- defend our patents;
- preserve the confidentiality of our trade secrets; and
- operate without infringing the patents and proprietary rights of third parties.

We believe that we were the first commercial enterprise to focus on the emerging microRNA field, and as a result, we have developed an early and strong intellectual property position related to the development and commercialization of research, diagnostic and therapeutic products and other applications based on microRNAs. Our patent strategy is to seek broad coverage on all of our identified microRNA sequences. We also filed applications which claim groups of microRNAs which are grouped for example by chromosomal locations of the microRNA genes. We have filed, and will continue to file, patent applications that claim method-of-use for specific diagnostic and therapeutic applications as we or our collaborators develop them. We believe this approach will provide strong and broad patent protection for a large number of microRNAs that we have discovered and may provide us with a competitive advantage over new entrants to the field.

As of February 29, 2012, our patent portfolio included a total of 21 issued U.S. patents, 1 issued Australian patent, 2 issued Israeli patent, 61 pending patent applications worldwide, consisting of 29 U.S. patent applications, 2 of which received notice of allowance,

3 PCT applications, 4 applications that were nationalized in Europe, 14 applications nationalized in Israel, 2 applications nationalized in Japan, 3 applications nationalized in Australia, 2 nationalized in Canada, 2 applications nationalized in China and 1 application that was nationalized in each of Korea and India. Of these patent applications, 55 relate to human microRNAs and their uses, 3 claim viral microRNAs, 3 contain claims related to our discovery process. 34 applications contain claims directed to microRNA-based diagnostics in Heart Failure, Alzheimer's disease, Cancer of Unknown Origin (CUP), lung, mesothelioma and other cancers; and 10 contain claims directed to microRNA-based therapeutics.. The issued patents expire between 2022 and 2025.

Nucleic acids related to genes are patentable under U.S. patent laws, and are generally patentable under foreign patent laws as well. To date, patent protection related to numerous human genes has been obtained in the United States and elsewhere. MicroRNAs are derived from naturally occurring genes, and as such, we believe, are similarly patentable under U.S. and foreign patent laws.

In order to obtain maximum patent protection for composition of matter of microRNAs in the U.S. and foreign jurisdictions, our patent applications:

- provide for utility, function and disease targets for each microRNA sequence;
- claim specific microRNA sequences as opposed to general mechanism or concept; and
- identify the functional fragment of each microRNA sequence.

We believe this approach avoids common mistakes made by others in the past with respect to attempts to patent genes and, if patents are issued, will make it more difficult for competitors to design around our patents.

Our intellectual property strategy is closely coordinated with our research and development plan and we have an ongoing three-tier approach to obtaining patent protection, which is illustrated and described below:

***First Tier: Composition-of-Matter Patent applications on Biologically Validated MicroRNAs***

We have filed a first tier of patent applications claiming patent coverage for the composition-of-matter of microRNAs that we have either detected by microarray or biologically validated by sequencing or qRT-PCR. In addition to the function and utility based on informatically calculated targets, microRNAs claimed in these patent applications are further described as potential markers of a disease, as supported by differential expression of these microRNAs in healthy versus diseased tissue. Our patent portfolio includes 24 issued patents and 14 patent applications with composition-of-matter claims related to validated microRNAs.

***Second Tier: Technologies to detectMicroRNAs***

We have filed a second tier of patent applications claiming patent coverage for our proprietary discovery process technologies for microRNA detection, including qRT-PCR methods, microarray, in situ hybridization and extraction methods from all body fluids. Our patent portfolio includes 3 patent applications related to discovery process technologies.

***Third Tier: Method-of-Use Patents***

We have filed a third tier of patent applications claiming patent coverage for the method-of-use of microRNAs, including diagnostic and therapeutic uses for specific diseases. This tier of patent applications includes applications which we have filed ourselves and those that we have filed jointly with academic, medical and commercial partners with whom we collaborate. Our patent portfolio includes 44 patent applications with method of use claims related to diagnostic and therapeutic uses of microRNAs and we expect to file additional third tier applications in the future.

Individual patents extend for varying periods depending on the effective date of filing of the patent application or the date of patent issuance, and the legal term of the patents in the countries in which they are obtained. Generally, patents issued in the United States are effective for:

- the longer of 17 years from the issue date or 20 years from the earliest effective filing date, if the patent application was filed prior to June 8, 1995; and
- 20 years from the earliest effective filing date, if the patent application was filed on or after June 8, 1995.

All of our current patent applications were filed after June 8, 1995.

The term of foreign patents varies in accordance with provisions of applicable local law, but typically is 20 years from the earliest effective filing date. In addition, in some instances, a patent term in the United States and outside of the United States can be extended to recapture a portion of the term effectively lost as a result of the health authority regulatory review period. These extensions, which may be as long as five years, are directed to the approved product and its approved indications. We intend to seek such extensions as appropriate. Because of the extensive time required for development, testing and regulatory review of a potential product, it is possible that a patent may remain in force for a short period following commercialization, thereby reducing the advantage of the patent to our business and products.

The patent positions of companies like ours are generally uncertain and involve complex legal and factual questions. Our ability to maintain and solidify our proprietary position for our technology will depend on our success in obtaining effective claims and enforcing those claims once granted. We do not know whether any of our patent applications will result in the issuance of any patents or if issued will assist our business. Any patents that may issue in the future may be challenged, invalidated or circumvented. This could limit our ability to stop competitors from marketing related products and reduce the length of term of patent protection that we may have for any products. In addition, the rights granted under any patents which may issue may not provide us with proprietary protection or competitive advantages against competitors with similar technology. Our competitors may develop similar technologies, duplicate any technology developed by us, or use their patent rights to block us from taking full advantage of the market.

In addition to patents, we may rely, in some circumstances, on trade secrets to protect our technology. However, trade secrets are difficult to protect. We seek to protect the trade secrets in our proprietary technology and processes, in part, by entering into confidentiality agreements with commercial partners, collaborators, employees, consultants, scientific advisors and other contractors and into invention assignment agreements with our employees and some of our commercial partners and consultants. These agreements are designed to protect our proprietary information and, in the case of the invention assignment agreements, to grant us ownership of the technologies that are developed. These agreements may be breached, and we may not have adequate remedies for any breach. In addition, our trade secrets may otherwise become known or be independently discovered by competitors.

***In-Licensed Intellectual Property***

*License Agreement with The Rockefeller University (Diagnostics)*

In May 2006, we signed a royalty-bearing, co-exclusive, worldwide license agreement with The Rockefeller University. Under this agreement, we were granted the right to make, use and sell Rockefeller's proprietary microRNAs for diagnostic purposes including a limited right to sublicense. Our right to sublicense is limited to sublicenses we grant as part of a license that includes other technology or patent rights of ours. The agreement covers microRNAs and microRNA candidates, including approximately 80 biologically validated human microRNAs and approximately 30 biologically validated viral microRNAs discovered by researchers at The Rockefeller University and for which it has filed patent applications. These microRNAs can be licensed by Rockefeller in the diagnostics field to three additional parties. In consideration for this license, we paid an initiation fee and will pay a fixed annual license maintenance fee, royalties based on net sales and a percentage of our revenues from any sublicenses. Rockefeller is obligated to notify us of any license it grants to a third party at a lower royalty rate and we will have the right to modify the terms of our license to adopt all of the material terms and conditions of that license.

Rockefeller controls prosecution, maintenance and enforcement of all the licensed patent rights; however, we are responsible for a pro rata share of associated costs. Also, if Rockefeller elects not to take action against a claim of infringement of the licensed patent rights, we may undertake such action at our own expense. We are obligated to indemnify Rockefeller against any liabilities arising from our development and use of the licensed microRNAs and any actions brought by third parties or related to clinical trials or studies. We are also required to maintain comprehensive insurance coverage.

The agreement will terminate upon the later of the expiration or abandonment of the last patent to expire or become abandoned. If no patent ever issues, the agreement will terminate ten years after the first commercial sale of the first licensed product. Based on an estimate of the date of expiration of the last patent to expire, we estimate that we will pay a minimum of approximately $960,000 in aggregate annual license maintenance fees over the term of this agreement. Rockefeller has the right to terminate the agreement if we are more than 30 days late in meeting our payment obligations and do not pay in full within ten days of Rockefeller's written demand; or upon our uncured material breach. We can terminate the agreement by providing sixty days written notice to Rockefeller, ceasing all use of the licensed products, terminating any sublicenses granted under the agreement and paying all amounts owed to Rockefeller through the date of termination.

*License Agreement with The Rockefeller University (Therapeutics)*

In May 2007, we signed a royalty-bearing, co-exclusive, worldwide license agreement with The Rockefeller University. Under this agreement, we were granted the right to make, use and sell Rockefeller's proprietary microRNAs for therapeutic purposes, including a limited right to sublicense. Our right to sublicense is limited to sublicenses that are for research and development of products and that are granted as part of a license that includes other technology or patent rights of ours. The agreement covers microRNAs and microRNA candidates, including approximately 80 biologically validated human microRNAs and approximately 30 biologically validated viral microRNAs discovered by researchers at The Rockefeller University for which it has filed patent applications. These microRNAs can be licensed by Rockefeller in the therapeutics field to three additional parties. In consideration for this license, we paid an initiation fee and are required to pay a fixed annual license maintenance fee, milestone payments and royalties based on net sales and a percentage of our revenues from any sublicenses. Rockefeller is obligated to notify us of any license it grants to a third party at a lower royalty rate, and we will have the right to modify the terms of our license to adopt all of the material terms and conditions of that license.

Rockefeller controls prosecution, maintenance and enforcement of all the licensed patent rights; however, we are responsible for a pro rata share of associated costs. Also, if Rockefeller elects not to take action against a claim of infringement of the licensed patent rights, we may undertake such action at our own expense. We are obligated to indemnify Rockefeller against any liabilities arising from our

development and use of the licensed microRNAs and any actions brought by third parties or related to clinical trials or studies. We are also required to maintain comprehensive insurance coverage.

The agreement will terminate upon the later of the expiration or abandonment of the last patent to expire or become abandoned. If no patent ever issues, the agreement will terminate ten years after the first commercial sale of the first licensed product. Based on an estimate of the date of expiration of the last patent to expire, we estimate that we will pay a minimum of approximately $690,000 in aggregate annual license maintenance fees over the term of this agreement. Rockefeller has the right to terminate the agreement if we are more than 30 days late in meeting our payment obligations and do not pay in full within ten days of Rockefeller's written demand; or upon our uncured material breach. We can terminate the agreement by providing 60 days written notice to Rockefeller, ceasing all use of the licensed products, terminating any sublicenses granted under the agreement and paying all amounts owed to Rockefeller through the date of termination.

*License Agreement with The Rockefeller University (Research)*

In January 2008, we signed a royalty-bearing, nonexclusive, worldwide license agreement with The Rockefeller University. Under this agreement, we were granted the right to make, use, import, sell and offer for sale Rockefeller's proprietary microRNAs for research purposes including a limited right to sublicense. Our right to sublicense is limited to sublicenses we grant as part of a license that includes other technology or patent rights of ours. The agreement covers microRNAs and microRNA candidates, including approximately 80 biologically validated human microRNAs and approximately 30 biologically validated viral microRNAs discovered by researchers at The Rockefeller University and for which it has filed patent applications. In consideration for this license, we paid an initiation fee and will pay a minimum annual royalty, based on net sales and a percentage of our revenues from any sublicenses. Rockefeller is obligated to notify us of any license it grants to a third party at a lower royalty rate and we will have the right to modify the terms of our license to adopt all of the material terms and conditions of that license.

Rockefeller controls preparation, prosecution and maintenance of the licensed patent rights and the selection of patent council with our input; however, we are responsible for a pro rata share of associated costs. Also, if Rockefeller elects not to take action against a claim of infringement of the licensed patent rights, we may undertake such action at our own expense. We are obligated to indemnify Rockefeller against any liabilities arising from our development, testing, use, manufacture, promotion, sale of other disposition of the licensed microRNAs and any actions brought by third parties. We are also required to maintain comprehensive insurance coverage.

The agreement will terminate upon the later of the expiration or abandonment of the last patent to expire or become abandoned. If no patent ever issues, the agreement will terminate ten years after the first commercial sale of the first licensed product. Based on an estimate of the date of expiration of the last patent to expire, we estimate that we will pay a minimum of approximately $440,000 in aggregate minimum annual royalty over the term of this agreement. Rockefeller has the right to terminate the agreement if we are more than 30 days late in meeting our payment obligations and do not pay in full within ten days of Rockefeller's written demand; or upon our uncured material breach. We can terminate the agreement by providing 60 days written notice to Rockefeller, ceasing all use of the licensed products, terminating any sublicenses granted under the agreement and paying all amounts owed to Rockefeller through the date of termination.

*License Agreement with Max Planck Innovation GmbH (Diagnostics)*

In June 2006, we entered into a royalty-bearing, co-exclusive, worldwide license agreement with Max Planck Innovation GmbH, or Max Planck, the technology transfer agency of the Max Planck Society. This agreement was amended and restated in March 2009. Under this agreement, we licensed from Max Planck the rights to its proprietary microRNAs for diagnostics purposes. The agreement covers microRNAs and microRNA candidates, including approximately 110 biologically validated human microRNAs, discovered by the researchers of the Max-Planck-Institute for Biophysical Chemistry in Goettingen. In consideration for this license, we paid an initiation fee, and are required to pay a fixed annual license maintenance fee, royalties based on net sales and a percentage of our revenues from any sublicenses.

These microRNAs can be licensed by Max Planck for diagnostics purposes to three other parties. Max Planck is obligated to notify us of any more favorable license in the diagnostics field it grants for these microRNAs, in which event we shall have the right to adopt all material terms of such license. We have the right to enter into sublicense agreements, only in the event that the granted sublicense includes a license to intellectual property rights owned or co-owned by us as well, is reasonably necessary for sublicensee in order to further develop and/or commercialize or manufacture products and permits no more than one tier of sublicensing.

Max Planck is responsible, in its sole discretion, to apply for, seek issuance of, maintain and prosecute the licensed patent rights, and we have the right to comment on the documents to be filed by the patent office. We are required, however, to pay a pro rata share of associated costs. We are obligated to indemnify Max Planck against any liabilities arising from any use by us, our affiliates, sublicensees and sales partners of the patent rights, the development and use of any product, process or service under the agreement, and the use by third parties of any products, processes or services sold by us. We are also required to maintain comprehensive insurance coverage.

The agreement terminates upon the expiration or abandonment of all issued and filed licensed patents. Based on an estimate of the date of expiration of the last patent to expire, we estimate that we will pay a minimum of approximately $504,000 in aggregate annual license maintenance fees over the term of this agreement. We have the right to terminate the agreement with three months' prior written notice. We have the obligation to use commercially reasonable efforts to develop and commercialize the products and services based on the licensed patents in the field of diagnostics. In the event we cease carrying out our business related to the agreement we must notify Max Planck and then both parties have the right to terminate the agreement with three months' prior notice. Max Planck

also has the right to terminate the agreement if we challenge one of the licensed patents; if we fail to cure a breach within 60 days of receiving notice of such breach; or if we fail to pay within 30 days of a notice requiring a payment. The agreement will terminate automatically upon filing of bankruptcy or insolvency proceedings by or against us, or upon the assignment of all or a substantial portion of our assets for the benefit of creditors.

*License Agreement with Max Planck Innovation GmbH (Research)*

In December 2006, we entered into a royalty-bearing, non-exclusive, worldwide license agreement with Max Planck. Under this agreement, we licensed from Max Planck the rights to its proprietary microRNAs for research purposes. The agreement covers microRNAs and microRNA candidates, including approximately 110 biologically validated human microRNAs, discovered by the researchers of the Max-Planck-Institute for Biophysical Chemistry in Goettingen. In consideration for this license, we will pay an initiation fee, and are required to pay a fixed annual license maintenance fee, royalties based on net sales and a percentage of our revenues from any sublicenses.

Max Planck is obligated to notify us of any more favorable license in the research field it grants for these microRNAs, in which event we shall have the right to adopt all material terms of such license. We have the right to enter into sublicense agreement, but only if the granted sublicense includes a license to microRNAs owned by us as well.

Max Planck is responsible, in its sole discretion, to apply for, seek issuance of, maintain and prosecute the licensed patent rights, and we have the right to comment on the documents to be filed with the patent office. We are obligated to indemnify Max Planck against any liabilities arising from any use by us, our affiliates, sublicensees and sales partners of the patent rights, the development and use of any product, process or service under the agreement, and the use by third parties of any products, processes or services sold by us. We are also required to maintain comprehensive insurance coverage.

The agreement terminates upon the later of the expiration or abandonment of the last patent to expire or become abandoned of the patent rights contemplated under the agreement, or, if no patent ever issues from the patent rights, ten years after the first commercial sale of the first licensed product, as contemplated under the agreement. Based on an estimate of the date of expiration of the last patent to expire, we estimate that we will pay a minimum of approximately $310,000 in aggregate annual license maintenance fees over the term of this agreement. We have the right to terminate the agreement with 60 days prior written notice. Max Planck also has the right to terminate the agreement if we fail to cure a breach within 60 days of receiving notice of such breach; or if we fail to pay within 30 days of a notice requiring a payment.

*License Agreement with Johns Hopkins University*

In August 2006, we signed a royalty-bearing, exclusive, worldwide license agreement with Johns Hopkins University this agreement was amended and restated in August 2011. Under the restated agreement, we have licensed from Johns Hopkins the rights to its proprietary microRNAs for all fields and applications on a non-exclusive basis. The agreement covers approximately 130 biologically validated microRNAs. We also have the right to further sublicense these rights, provided that such sublicense includes a license to substantial intellectual property rights owned or co-owned by us and is consistent with the terms of our license agreement. In consideration for the restated license we paid an amendment fee, and are required to pay minimum annual royalties, royalties based on net sales and a percentage of our revenues from any sublicense. We are obligated to perform commercially reasonable diligent efforts in the development of products, including or using the licensed microRNAs.

Johns Hopkins is responsible for filing, prosecuting and maintaining the licensed patent rights, and we have the right to comment on and advise Johns Hopkins with respect to such matters. We are required to pay all expenses related to filing, prosecution and maintenance of the licensed patent rights; unless we provide Johns Hopkins notice that we elect not to do so. If we so elect, Johns Hopkins may file, prosecute or maintain such patent rights at its own expense and any license we have with respect to such patent rights shall terminate. We have the right but not the obligation to enforce the patent rights against infringement.

We are obligated to indemnify Johns Hopkins against any liabilities arising out of use by us, our affiliates or sublicensees of the licensed microRNAs. We are also obligated to establish and maintain product liability or other appropriate insurance prior to initial human testing or first commercial sale of any product incorporating the licensed microRNAs.

The agreement terminates with respect to each country in which a patent has issued upon the expiration of the last to expire patent covered by the terms of the agreement in such country. If no patents ever issue in a country but patent applications are filed in such country, the agreement will expire with respect to such country upon the cancellation, abandonment, withdrawal or disallowance of all claims under all patent applications in that country or at such time as there is no claim that has been pending in such country for less than six years from the date such claim was filed in a non-provisional patent application in that country. Based on an estimate of the date of expiration of the last patent to expire, we estimate that we will pay a minimum of approximately $320,000 in aggregate annual royalties over the term of the agreement. In addition, either party may terminate the agreement (1) upon the filing of bankruptcy or

insolvency proceedings with respect to the other party or (2) if the other party is in material breach of the agreement and such breach is not cured within 30 days of notice. We also have the right to terminate the agreement for any reason upon 90 days notice.

**Competition**

Our industry is highly competitive and subject to rapid and significant technological change. All of the tests and products we are developing or may develop in the future, if approved, will compete against existing non-microRNA-based diagnostic tests and therapies. In addition, we believe a significant number of non-microRNA-based diagnostic tests and drug candidates are currently under development and may become available for the diseases we are targeting or may target. In addition to the competition we face from non-microRNA-based competing tests and products from companies such as Pathwork Diagnostics, Inc. and Biotheranostics, Inc.that have developed or are developing diagnostic tests based on other non-microRNA technologies, we also face competition from other companies working to develop novel tests and products using technology that competes more directly with our microRNAs. We are aware of several other companies that are working to develop microRNA diagnostics and therapeutics, including Combimatrix Corporation, Alnylam Pharmaceuticals, Inc., Asuragen Inc., Exiqon A/S, Life Technologies Corporation, Isis Pharmaceuticals, Merck & Co., Inc., Santaris Pharma A/S, Regulus Therapeutics and others. We believe the key competitive factors affecting the commercial success of our potential tests and products will be:

- the safety and effectiveness of our products;
- the timing and scope of regulatory approvals, if required, for these tests and products;
- the availability and cost of manufacturing, marketing and sales capabilities;
- reimbursement coverage; and
- patent position.

Many of our potential competitors, either alone or with their collaborative partners, have substantially greater financial, technical and human resources than we do and significantly greater experience in the discovery and development of diagnostics and therapeutics, obtaining FDA and other regulatory approvals of tests and products and the commercialization of those tests and products. Accordingly, our competitors may be more successful than we may be in obtaining FDA approval and achieving widespread market acceptance. Our competitors' tests or products may be more effective, or more effectively marketed and sold, than any test or product we may commercialize and may render our tests and products obsolete or non competitive before we can recover the expenses of developing and commercializing them. We anticipate that we will face intense and increasing competition as advanced technologies become available.

**Manufacturing**

We currently intend to rely on contract manufacturers or our collaborative partners to produce materials for diagnostic tests and drug substances and drug products required for preclinical studies and clinical trials. We plan to continue to rely upon contract manufacturers and collaboration partners to manufacture commercial quantities of these materials for any marketed diagnostic or therapeutic.

**Regulatory**

***Diagnostics***

*CLIA and Other Laboratory Licensure*

Laboratories that perform testing on human specimens for the purpose of providing information for diagnosis, prevention or treatment of disease or assessment of health are subject to the Clinical Laboratory Improvement Amendments of 1988, or CLIA. This law imposes quality standards for laboratory testing to ensure the accuracy, reliability and timeliness of patient test results. The FDA is responsible for the categorization of commercially marketed IVD tests under CLIA into one of three categories based upon the potential risk to public health in reporting erroneous results. The categories were devised on the basis of the complexity of the test and include waived tests, tests of moderate complexity, and tests of high complexity. Laboratories performing moderate- or high-complexity testing must meet the CLIA requirements for proficiency testing, patient test management, quality control, quality assurance and personnel.

Under CLIA, certified laboratories are required to hold a certificate applicable to the type of work they perform and to comply with standards covering personnel, facilities administration, quality systems and proficiency testing. CLIA-certified laboratories are typically subject to survey and inspection every two years to assess compliance with program standards.

In addition to CLIA certification, laboratories offering clinical testing services are required to hold certain federal, state and local licenses, certifications and permits. Clinical laboratories are licensed by the states in which they are located. In addition, some states require any clinical laboratory that analyzes samples from residents of that state to also be licensed by it. Many CLIA-certified laboratories also seek accreditation by the College of American Pathologists, or CAP, and licensure by states that require that state specific licensure for a laboratory that intends to test clinical samples from residents of that state. The CAP Laboratory Accreditation Program is an internationally recognized program that utilizes teams of practicing laboratory professionals as inspectors, and accreditation by CAP can often be used to meet CLIA and state certification requirements.

*Food and Drug Administration*

Laboratory Developed Tests

Although the FDA has consistently stated that it has the authority to regulate clinical laboratory tests as medical devices, it has generally exercised enforcement discretion in not otherwise regulating most tests developed and validated at the high complexity CLIA-certified laboratory at which the test is performed. These tests are known as LDTs. More recently, the FDA has indicated that it is reviewing the regulatory requirements that will apply to LDTs, and held a two-day public meeting in 2010, to obtain input from stakeholders on how it should apply its authority to implement a reasonable risk-based and effective regulatory framework for LDTs. The FDA has not indicated when or how those changes will be implemented, but it left little doubt that changes are forthcoming.

In Vitro Diagnostics

The type of regulation to which our tests and diagnostics may be subject will depend in large part on how we intend to commercialize them. Diagnostics that will be commercialized through direct product sales as *in vitro* diagnostic kits are subject to review by the FDA as medical devices and must be cleared or approved before they can be marketed. Most tests that are offered as LDTs by a CLIA-certified laboratory have generally not been subject to regulation by the FDA, however, this may change after the FDA announces the new requirements that will apply to LDTs.

The FDA regulates the sale or distribution of medical devices, including *in vitro* diagnostic test kits and some *in vitro* diagnostic tests. The information that must be submitted to the FDA in order to obtain clearance or approval to market a new medical device varies depending on how the medical device is classified by the FDA. Medical devices are classified into one of three classes on the basis of the controls deemed by the FDA to be necessary to reasonably ensure their safety and effectiveness. Class I devices are subject to general controls, including labeling, pre-market notification and adherence to FDA's quality system regulation, which are device-specific good manufacturing practices. Class II devices are subject to general controls and special controls, including performance standards and post-market surveillance. Class III devices are subject to most of the previously identified requirements as well as to pre-market approval. All Class I devices are exempt from premarket review; most Class II devices require 510(k) clearance and all Class III devices must receive premarket approval before they can be sold in the United States. The payment of a fee is usually required when a 510(k) notice or premarket approval application is submitted.

*510(k) Premarket Notification.* A 510(k) notification requires the sponsor to demonstrate that a medical device is substantially equivalent to another marketed device, termed a "predicate device", that is legally marketed in the United States and for which a PMA was not required. A device is substantially equivalent to a predicate device if it has the same intended use and technological characteristics as the predicate; or has the same intended use but different technological characteristics, where the information submitted to the FDA does not raise new questions of safety and effectiveness and demonstrates that the device is at least as safe and effective as the legally marketed device.

The FDA is supposed to issue a decision letter within 90 days of receipt of the 510(k) if it has no additional questions or send a first action letter requesting additional information within 75 days. Most 510(k)s do not require clinical data for clearance, but a minority will. Requests for additional data, including clinical data, will increase the time necessary to review the notice. If the FDA believes that the device is not substantially equivalent to a predicate device, it will issue a "Not Substantially Equivalent" letter and designate the device as a Class III device, which will require the submission and approval of a PMA before the new device may be marketed. Under certain circumstances, the sponsor may petition the FDA to make a risk-based determination of the new device and reclassify the new device as a Class I or Class II device. The FDA is currently reevaluating the 510(k) review process, and we cannot predict what if any changes will occur.

*Premarket Approval.* The PMA process is more complex, costly and time consuming than the 510(k) process. A PMA must be supported by more detailed and comprehensive scientific evidence, including clinical data, to demonstrate the safety and efficacy of the medical device for its intended purpose. If the device is determined to present a "significant risk," the sponsor may not begin a clinical trial until it submits an investigational device exemption, or IDE, to the FDA and obtains approval from the FDA to begin the trial.

After the PMA is submitted, the FDA has 45 days to make a threshold determination that the PMA is sufficiently complete to permit a substantive review. If the PMA is complete, the FDA will file the PMA. The FDA is subject to a performance goal review time for a PMA that is 180 days from the date of filing, although in practice this review time is longer. Questions from the FDA, requests for

additional data and referrals to advisory committees may delay the process considerably. The total process may take several years and there is no guarantee that the PMA will ever be approved. Even if approved, the FDA may limit the indications for which the device may be marketed. The FDA may also request additional clinical data as a condition of approval or after the PMA is approved. Any changes to the medical device may require a supplemental PMA to be submitted and approved.

Any products sold by us pursuant to FDA clearances or approvals will be subject to pervasive and continuing regulation by the FDA, including record keeping requirements, reporting of adverse experiences with the use of the device and restrictions on the advertising and promotion of our products. Device manufacturers are required to register their establishments and list their devices with the FDA and are subject to periodic inspections by the FDA and certain state agencies. Noncompliance with applicable FDA requirements can result in, among other things, warning letters, fines, injunctions, civil penalties, recalls or seizures of products, total or partial suspension of production, refusal of the FDA to grant 510(k) clearance or PMA approval for devices, withdrawal of 510(k) clearances and/or PMA approvals and criminal prosecution.

*European Regulations*

In the European Union, IVD medical devices are regulated under EU-Directive 98/79/EC, or the IVD Directive, and corresponding national provisions. The IVD Directive requires that medical devices meet the essential requirements set out in an annex of the directive. These requirements include the safety and efficacy of the devices. According to the IVD Directive, the Member States presume compliance with these essential requirements in respect of devices which are in conformity with the relevant national standards transposing the harmonized standards of which the reference numbers have been published in the Official Journal of the European Communities. These harmonized standards include ISO 13485:2003, the quality standard for medical device manufacturers.

IVD medical devices, other than devices for performance evaluation, must bear the CE marking of conformity when they are placed on the market. The CE mark is a declaration by the manufacturer that the product meets all the appropriate provisions of the relevant legislation implementing the relevant European Directive. As a general rule, the manufacturer must follow the procedure of the EC Declaration of conformity to obtain this CE marking.

Each European country must adopt its own laws, regulations and administrative provisions necessary to comply with the IVD Directive. Member States may not create any obstacle to the placing on the market or the putting into service within their territory of devices bearing the CE marking according to the conformity assessment procedures.

***Therapeutics***

In the United States, the process of obtaining regulatory approvals and the subsequent compliance with appropriate federal, state and local statutes and regulations require the expenditure of substantial time and financial resources. Failure to comply with the applicable United States requirements at any time during the product development process, approval process or after approval, may subject an applicant to administrative or judicial sanctions. The process required by the FDA before a drug may be marketed in the United States generally involves the following:

- completion of preclinical laboratory tests, animal studies and formulation studies in compliance with the FDA's Good Laboratory Practices or other applicable regulations;
- submission to the FDA of an investigational new drug application, or IND, which must become effective before human clinical trials may begin;
- approval by an institutional review board, or IRB, at each institution participating in a clinical trial, which must review and approve the plan for any clinical trial before it commences at that institution;
- performance of adequate and well-controlled human clinical trials in accordance with Good Clinical Practices, or GCPs, to establish the safety and efficacy of the proposed drug for its intended use;
- submission to the FDA of a new drug application, or NDA, if the drug is a small molecule, or a biologics license application, or BLA, if the drug is a biologic;
- satisfactory completion of an FDA inspection of the manufacturing facility or facilities at which the drug is produced to assess compliance with current Good Manufacturing Practice, or cGMP, to assure that the facilities, methods and controls are adequate to preserve the drug's identity, strength, quality and purity; and
- FDA review and approval of the NDA or BLA.

Once a pharmaceutical candidate is identified for development it enters the preclinical testing stage. Preclinical tests include laboratory evaluations of product chemistry, toxicity and formulation, as well as animal studies. An IND sponsor must submit the results of the preclinical tests, together with manufacturing information and analytical data, and applicable clinical data or literature, among other things, to the FDA as part of the IND. The sponsor will also include a protocol detailing, among other things, the objectives of the first phase of the clinical trial, the parameters to be used in monitoring safety, and the effectiveness criteria to be evaluated, if the first phase lends itself to an efficacy evaluation. The IND automatically becomes effective 30 days after receipt by the FDA, unless the FDA, within the 30-day time period, places the clinical trial on a clinical hold. In such a case, the IND sponsor and the FDA must resolve any outstanding concerns before the clinical trial can begin. Clinical holds also may be imposed by the FDA at any time before or during studies due to, among other things, safety concerns or non-compliance.

All clinical trials must be conducted under the supervision of one or more qualified investigators in accordance with GCP regulations. An IRB at each institution participating in the clinical trial must review and approve the plan for any clinical trial before it commences at that institution. An IRB considers, among other things, whether the risks to individuals participating in the trials are minimized and are reasonable in relation to anticipated benefits. The IRB also approves the information regarding the trial and the consent form that must be provided to each trial subject or his or her legal representative and must monitor the study until completed.

Each new clinical protocol must be submitted for FDA review, and to the IRBs for approval. Protocols detail, among other things, the objectives of the study, dosing procedures, subject selection and exclusion criteria, and the parameters to be used to monitor subject safety.

Human clinical trials are typically conducted in three sequential phases that may overlap or be combined:

- *Phase 1*: The drug is initially introduced into healthy human subjects and tested for safety, dosage tolerance, absorption, metabolism, distribution and excretion. In the case of some products for severe or life-threatening diseases, especially when the product may be too inherently toxic to ethically administer to healthy volunteers, the initial human testing is often conducted in patients.

- *Phase 2*: Involves studies in a limited patient population to identify possible adverse effects and safety risks, to preliminarily evaluate the efficacy of the product for specific targeted diseases and to determine dosage tolerance and optimal dosage.

- *Phase 3*: Involves studies undertaken to further evaluate dosage, clinical efficacy and safety in an expanded patient population at geographically dispersed clinical study sites. These studies are intended to establish the overall risk-benefit ratio of the product and provide an adequate basis for product labeling.

Progress reports detailing the results of the clinical trials must be submitted at least annually to the FDA and safety reports must be submitted to the FDA and the investigators for serious and unexpected adverse events. The FDA or the sponsor may suspend or terminate a clinical trial at any time on various grounds, including a finding that the research subjects or patients are being exposed to an unacceptable health risk. Similarly, an IRB can suspend or terminate approval of a clinical trial at its institution if the clinical trial is not being conducted in accordance with the IRB's requirements or if the drug has been associated with unexpected serious harm to patients.

Concurrent with clinical trials, companies usually complete additional nonclinical studies and must also finalize a process for manufacturing the product in commercial quantities in accordance with cGMP requirements. The manufacturing process must be capable of consistently producing quality batches of the drug within required specifications and, among other things, the manufacturer must develop methods for testing the identity, strength, quality and purity of the final drug. Additionally, appropriate packaging must be selected and tested and stability studies must be conducted to demonstrate that the drug does not undergo unacceptable deterioration over its shelf life.

*United States Review and Approval Processes*

The results of product development, preclinical studies and clinical trials, along with descriptions of the manufacturing process, analytical tests conducted on the chemistry of the drug, proposed labeling, and other relevant information are submitted to the FDA as part of an NDA or BLA requesting approval to market the product for one or more indications. The FDA initially reviews all NDAs and BLAs submitted to ensure that they are sufficiently complete for substantive review before it accepts them for filing. The FDA may request additional information rather than accept an NDA or BLA for filing. Once the submission is accepted for filing, the FDA begins an in-depth substantive review. The FDA may refer the NDA or BLA to an advisory committee for review, evaluation and recommendation as to whether the application should be approved and under what conditions. The FDA is not bound by the recommendation of an advisory committee.

The review process is lengthy and the FDA may refuse to approve an NDA or BLA if the applicable regulatory criteria are not satisfied or may require additional clinical or other data and information. Even if such data and information are submitted, the FDA may ultimately decide that the NDA does not satisfy the criteria for approval.

If a product receives regulatory approval, the approval may be limited to specific diseases and dosages or the approved indications for use may otherwise be limited, which could restrict the commercial value of the product. In addition, the FDA may require a company

to conduct post-approval testing, including Phase 4 clinical trials, to further assess a drug's safety and effectiveness after NDA or BLA approval, and may require testing and surveillance programs to monitor the safety of approved products which have been commercialized.

*Post-approval Requirements*

Approved drugs are subject to extensive and continuing regulation by the FDA, including, among other things, cGMP compliance, record-keeping requirements, reporting of adverse experiences with the drug, providing the FDA with updated safety and efficacy information, and complying with FDA promotion and advertising requirements. Once an approval is granted, the FDA may withdraw the approval if compliance with regulatory standards is not maintained or if problems occur after the product reaches the market. Drugs may be promoted only for the approved indications and in accordance with the provisions of the approved label. The FDA and other agencies actively enforce the laws and regulations prohibiting the promotion of off-label uses, and a company that is found to have improperly promoted off-label uses may be subject to significant liability.

***Non-U.S. Regulations***

In addition to regulations in the United States, we are subject to a variety of foreign regulations governing clinical trials and commercial sales and distribution of our tests and products outside the United States. Whether or not we obtain FDA approval for a product, we must obtain the necessary approvals by the comparable regulatory authorities of foreign countries before we can commence clinical trials or marketing of the product in those countries. The approval process varies from country to country and the time may be longer or shorter than that required for FDA approval. The requirements governing the conduct of clinical trials, the approval process, product licensing, pricing and reimbursement vary greatly from country to country.

***HIPAA and Other Privacy and Security Laws***

The Health Insurance Portability and Accountability Act of 1996, or HIPAA, established for the first time comprehensive United States protection for the privacy and security of health information. The HIPAA standards apply to three types of organizations, or "Covered Entities": health plans, healthcare clearing houses, and healthcare providers which conduct certain healthcare transactions electronically. Covered Entities must have in place administrative, physical, and technical safeguards to guard against the misuse of protected health information. Specifically, Title II of HIPAA, the administrative Simplification Act, contains four provisions that address the privacy of health data, the security of health data, the standardization of identifying numbers used in the healthcare system and the standardization of data content, codes and formats used in healthcare transactions. The privacy regulations protect medical records and other personal health information by limiting their use and release and giving patients the right to access their medical records. The HIPAA security standards require the adoption of administrative, physical and technical safeguards and the adoption of written security policies and procedures. Additionally, some state laws impose privacy protections more stringent than HIPAA and many impose security standards and breach notification requirements that apply in addition to HIPAA. Most of the institutions and physicians from which we obtain biological specimens that we use in our research and validation work are Covered Entities and must obtain proper authorization from their patients for the subsequent use of those samples and associated clinical information. We are a Covered Entity to the extent that our U.S. operations involve standard transactions conducted electronically (such as billing) in connection with clinical testing. Accordingly, we have implemented privacy and security policies and procedures consistent with HIPAA standards and taken other steps to comply.

In 2009, Congress enacted Subtitle D of the Health Information Technology for Economic and Clinical Health Act, or HITECH, provisions of the American Recovery and Reinvestment Act of 2009. HITECH amends HIPAA and, among other things, creates significant new regulatory compliance obligations for "business associates" or organizations that provide services to Covered Entities involving the use or disclosure of protected health information. Additionally, HITECH expands and strengthens HIPAA enforcement, imposes new penalties for noncompliance and establishes new breach notification requirements for Covered Entities and business associates. Under HITECT's new breach notification requirements, Covered Entities must, within 60 days of discovery, notify each individual whose information has been or is reasonably believed to have been, accessed, acquired or disclosed as a result of a breach. Covered Entities must also report breaches to the U.S. Department of Health and Human Services, or HHS, and in some cases, publish information about the breach in local or prominent media outlets. Consequently, it is important that breaches of PHI are promptly detected and reported within the company, so that we can make all required notifications.

*Federal Prohibitions on Health Care Fraud and False Statements Related to Health Care Matters*

Under the administrative simplification provisions of the Health Insurance Portability and Accountability Act, or HIPAA, the U.S. Department of Health and Human Services, or HHS, issued regulations for protecting the privacy and security of protected health information. Additional administrative simplification provisions created new federal crimes: health care fraud, false statements relating to health care matters, theft or embezzlement in connection with a health benefit program and obstruction of criminal investigation of health care offenses. The health care fraud statute prohibits knowingly and willfully executing a scheme to defraud any health care benefit program, including a private insurer. The false statements statute prohibits knowingly and willfully falsifying, concealing, or covering up a material fact or making any materially false, fictitious, or fraudulent statement in connection with the delivery of or payment for health care benefits, items, or services. The theft or embezzlement statute prohibits knowingly and willfully embezzling, stealing or otherwise converting or misapplying the money or property of a health care benefit program. The obstruction of criminal investigations of health care offenses statute prohibits willfully preventing, obstructing, misleading or delaying the communication of information and records relating to a violation of a federal health care offense to a criminal investigator. A violation of any of these laws is a felony and may result in fines, imprisonment, or exclusion from the federal health care programs.

We are currently subject to the HIPAA regulations and maintain an active program designed to address regulatory compliance issues. We are subject to prosecution or administrative enforcement and increased civil and criminal penalties for non-compliance,

including monetary penalties. We are also subject to enforcement by state attorneys general who were given authority to enforce HIPAA under HITECH and who also enforce state data security laws.

Our activities must also comply with other applicable privacy laws. For example, there are international privacy laws that impose restrictions on the access, use, and disclosure of health and other personal information. All of these laws may impact our business. Our failure to comply with these privacy laws or significant changes in the laws restricting our ability to obtain tissue samples and associated patient information or to conduct clinical testing could significantly impact our business and our future business plans.

**Compliance with Fraud and Abuse Laws**

We have to comply with various U.S. federal and state laws, rules and regulations pertaining to healthcare fraud and abuse, including anti-kickback laws and physician self-referral laws, rules and regulations. Violations of the fraud and abuse laws are punishable by criminal and civil sanctions, including, in some instances, exclusion from participation in federal and state healthcare programs, including Medicare and Medicaid.

***Anti-Kickback Statute***

The federal Anti-Kickback Statute prohibits persons from knowingly or willfully soliciting, receiving, offering or paying remuneration, directly or indirectly, in exchange for or to induce:

- the referral of an individual for a service or product for which payment may be made by Medicare, Medicaid or other government-sponsored healthcare program; or

- purchasing, ordering, arranging for, or recommending the ordering of, any service or product for which payment may be made by a government-sponsored healthcare program.

The definition of “remuneration” has been broadly interpreted to include anything of value, including such items as gifts, certain discounts, waiver of payments, and providing anything at less than its fair market value. In addition, several courts have interpreted the law to mean that if “one purpose” of an arrangement is intended to induce referrals, the statute is violated.

The Anti-Kickback Statue is broad and prohibits many arrangements and practices that are lawful in businesses outside of the healthcare industry. Recognizing that the Anti-Kickback Statute is broad and may technically prohibit many innocuous or beneficial arrangements, the Office of Inspector General of the Department of Health and Human Services, or OIG, has issued regulations, commonly known as "safe harbors." These safe harbors set forth certain requirements that, if fully met, will assure healthcare providers, including medical device manufacturers, that they will not be prosecuted under the Anti-Kickback Statute. Although full compliance with these safe harbor provisions ensures against prosecution under the Anti-Kickback Statute, full compliance is often difficult and the failure of a transaction or arrangement to fit within a specific safe harbor does not necessarily mean that the transaction or arrangement is illegal or that prosecution under the Anti-Kickback Statute will be pursued. However, conduct and business arrangements that do not fully satisfy each applicable safe harbor may result in increased scrutiny by government enforcement authorities such as the OIG. The statutory penalties for violating the Anti-Kickback Statute include imprisonment for up to five years and criminal fines of up to $25,000 per violation. In addition, through application of other laws, conduct that violates the Anti-Kickback Statute can also give rise to False Claims Act lawsuits, civil monetary penalties and possible exclusion from Medicare and Medicaid and other federal healthcare programs. In addition to the Federal Anti-Kickback Statute, many states have their own kickback laws. Often, these laws closely follow the language of the federal law, although they do not always have the same scope, exceptions, safe harbors or sanctions. In some states, these anti-kickback laws apply not only to payment made by a government health care program but also with respect to other payors, including commercial insurance companies.

***Physician Self-Referral Laws***

The federal ban on physician self-referrals, commonly known as the "Stark Law," prohibits, subject to certain exceptions, physician referrals of Medicare and Medicaid patients to an entity providing certain "designated health services" if the physician or an immediate family member of the physician has any financial relationship with the entity. The Stark Law also prohibits the entity receiving the referral from billing for any good or service furnished pursuant to an unlawful referral, and any person collecting any amounts in connection with an unlawful referral is obligated to refund such amounts. A person who engages in a scheme to circumvent the Stark Law's referral prohibition may be fined up to $100,000 for each such arrangement or scheme. The penalties for violating the Stark Law also include civil monetary penalties of up to $15,000 per service and possible exclusion from federal healthcare programs. In addition to the Stark Law, many states have their own self-referral laws. Often, these laws closely follow the language of the federal law, although they do not always have the same scope, exceptions, safe harbors or sanctions. In some states these anti-referral laws apply not only to payment made by a federal health care program but also with respect to other payors,

including commercial insurance companies. In addition, some state laws require physicians to disclose any financial interest they may have with a healthcare provider to their patients when referring patients to that provider even if the referral itself is not prohibited.

***Other Fraud and Abuse Laws***

The federal False Claims Act, or FCA prohibits any person from knowingly presenting, or causing to be presented, a false claim or knowingly making, or causing to made, a false statement to obtain payment from the federal government. Those found in violation of the FCA can be subject to fines and penalties of three times the damages sustained by the government, plus mandatory civil penalties of between $5,500 and $11,000 for each separate false claim. Actions filed under the FCA can be brought by any individual on behalf of the government, a "qui tam" action, and such individual, known as a "relator" or, more commonly, as a "whistleblower," who may share in any amounts paid by the entity to the government in damages and penalties or by way of settlement. In addition, certain states have enacted laws modeled after the FCA, and this legislative activity is expected to increase. Qui tam actions have increased significantly in recent years, causing greater numbers of healthcare companies, including medical device manufacturers, to defend false claim actions, pay damages and penalties or be excluded from Medicare, Medicaid or other federal or state healthcare programs as a result of investigations arising out of such actions.

The OIG also has authority to bring administrative actions against entities for alleged violations of a number of prohibitions, including the Anti-Kickback Statute and the Stark Law. The OIG may seek to impose civil monetary penalties or exclusion from the Medicare, Medicaid and other federal healthcare programs. Civil monetary penalties can range from $2,000 to $50,000 for each violation or failure plus, in certain circumstances, three times the amounts claimed in reimbursement or illegal remuneration. Typically, exclusions last for five years.

In addition, we must comply with a variety of other laws, such as laws prohibiting false claims for reimbursement under Medicare and Medicaid. all of which can also be triggered by violations of federal anti-kickback laws; the Health Insurance Portability and Accounting Act of 1996, which makes it a federal crime to commit healthcare fraud and make false statements; and the Federal Trade Commission Act and similar laws regulating advertisement and consumer protections.

**Reimbursement**

***United States***

In the United States, payments for diagnostic tests come from several sources, including third party payors such as insurance companies and health maintenance organizations; government health programs such as Medicare and Medicaid; and patients; and, in certain circumstances, hospitals or referring laboratories (who then bill health third-party payors for testing).

*Code Assignment.* In the United States, a third-party payor's decisions regarding coverage and payment are driven, in large part, by the specific Current Procedural Terminology, or CPT, code used to identify a test. The American Medical Association, or AMA, publishes the CPT, which is a listing of descriptive terms and identifying codes for reporting medical services and procedures. The purpose of the CPT is to provide a uniform language that accurately describes medical, surgical, and diagnostic services and therefore to ensure reliable nationwide communication among healthcare providers, patients, and third-party payors.

A manufacturer of in vitro diagnostic kits or a provider of laboratory services may request establishment of a Category I CPT code for a new product. Assignment of a specific CPT code ensures routine processing and payment for a diagnostic test by both private and government third-party payors.

The AMA has specific procedures for establishing a new CPT code and, if appropriate, for modifying existing nomenclature to incorporate a new test into an existing code. If the AMA concludes that a new code or modification of nomenclature is unnecessary, the AMA will inform the requestor how to use one or more existing codes to report the test.

While the AMA's decision is pending, billing and collection may be sought under an existing, non-specific CPT code. A manufacturer or provider may decide not to request assignment of a CPT code and instead use an existing, non-specific code for reimbursement purposes. However, use of such codes may result in more frequent denials and/or requests for supporting clinical documentation from the third-party payor and in lower reimbursement rates, which may vary based on geographical location.

*Coverage Decisions.* When deciding whether to cover a particular diagnostic test, private and government third-party payors generally consider whether the test is a covered benefit and, if so, whether it is reasonable and necessary for the diagnosis or treatment of illness and injury. Most third-party payors do not cover experimental services. Coverage determinations often are influenced by current standards of practice and clinical data, particularly at the local level. The Centers for Medicare & Medicaid Services, or CMS, which is the government agency responsible for overseeing the Medicare program, has the authority to make coverage determinations on a

national basis, but most Medicare coverage decisions are made at the local level by contractors that administer the Medicare program in specified geographic areas. Private and government third-party payors have separate processes for making coverage determinations, and private third-party payors may or may not follow Medicare's coverage decisions. If a third-party payor has a coverage determination in place for a particular diagnostic test, billing for that test must comply with the established policy. Otherwise, the third-party payor makes reimbursement decisions on a case-by-case basis.

*Payment*. Payment for covered diagnostic tests is determined based on various methodologies, including prospective payment systems and fee schedules. In addition, private third-party payors may negotiate contractual rates with participating providers or set rates as a percentage of the billed charge. Diagnostic tests furnished to Medicare inpatients generally are included in the bundled payment made to the hospital under Medicare's Inpatient Prospective Payment System. Payment for diagnostic tests furnished to Medicare beneficiaries in most other circumstances is made based on the Clinical Laboratory Fee Schedule, under which a payment amount is assigned to each covered CPT code. The law technically requires fee schedule amounts to be adjusted annually by the percentage increase in the consumer price index, or CPI, for the prior year, but Congress has frozen payment rates in certain years. For the 2011 calendar year the Clinical Laboratory Fee Schedule, or CLFS, was reduced across all listed tests by 1.75%. Currently, the ceiling for established tests is set at 74% of the median of all contractor fee schedule amounts for a particular test and 100% of the median for diagnostic tests for which no limitation amount was established prior to 2001. Medicaid programs generally pay for diagnostic tests based on a fee schedule, but reimbursement varies by state.

***European Union***

In the European Union the reimbursement mechanisms used by private and public health insurers vary by country. For the public systems reimbursement is determined by guidelines established by the legislator or responsible national authority. As elsewhere, inclusion in reimbursement catalogues focuses on the medical usefulness, need, quality and economic benefits to patients and the healthcare system. Acceptance for reimbursement comes with cost, use and often volume restrictions, which again can vary by country.

### *C. ORGANIZATIONAL STRUCTURE*

Rosetta Genomics Ltd. is organized under the laws of the State of Israel and has a wholly owned subsidiary, Rosetta Genomics Inc., which is a Delaware corporation, and a controlled subsidiary. In December 2011, we sold our complete ownership interest in Rosetta Green Ltd., a public Israeli company whose shares are traded on the TASE, which represented approximately 50.03% of the outstanding ordinary shares of Rosetta Green.

### *D. PROPERTY, PLANTS AND EQUIPMENT*

We currently rent approximately 875 square feet of office and laboratory space in Rehovot, Israel, under a lease that expires in January 2013. We have the option to renew the lease agreement for an additional 12 months. Our wholly owned subsidiary, Rosetta Genomics Inc., rents approximately 3,649 square feet of office space in Jersey City, New Jersey under a lease that expires in March 2013. In addition, Rosetta Genomics Inc. rents approximately 6,233 square feet of laboratory space in Philadelphia, Pennsylvania under a lease that expires in December 2013. If our business grows we made need additional space, but expect that alternate facilities will be available on reasonable terms as and when needed.

## ITEM 4.A UNRESOLVED STAFF COMMENTS

None.

## ITEM 5. OPERATING AND FINANCIAL REVIEW AND PROSPECTS

*The following discussion and analysis of our financial condition and results of operations should be read in conjunction with "Item 3. Key Information — A. Selected Consolidated Financial Data" and our consolidated financial statements and the related notes to those statements included elsewhere in this Annual Report. In addition to historical consolidated financial information, the following discussion and analysis contains forward-looking statements that involve risks, uncertainties and assumptions. Our actual results and timing of selected events may differ materially from those anticipated in these forward-looking statements as a result of many factors, including those discussed under "Forward-Looking Statements," "Item 3. Key Information — D. Risk Factors" and elsewhere in this Annual Report.*

**Overview**

We are seeking to develop and commercialize new diagnostic products based on a recently discovered group of genes known as microRNAs. MicroRNAs are naturally expressed, or produced, using instructions encoded in DNA and are believed to play an important role in regulating protein production. Proteins control most biological processes and thus we believe that microRNAs as their regulators have the potential to form the basis of a novel class of diagnostic tests and therapies for many serious illnesses.

Since our inception in March 2000, we have generated significant losses. As of December 31, 2011, we had an accumulated deficit of $85 million. We funded our operations through December 31, 2011 primarily through proceeds received from the sale of equity securities to investors in the aggregate amount of approximately $85 million, including the following:

- $30.2 million in gross proceeds from the sale of an aggregate of 1,078,125 ordinary shares at $28.00 per share in our initial public offering in March 2007. Net proceeds from the initial public offering, after deducting underwriters' discounts and expenses, were approximately $26 million.

- In January 2010, we completed a registered direct offering (referred to herein as the "2010 registered offering"), pursuant to which we sold an aggregate of 632,500 ordinary shares at a price of $8.00 per share and issued warrants to purchase a total of 316,257 ordinary shares at an exercise price of $10.00 per share to institutional investors for gross proceeds of approximately $5.1 million. The warrants expire on January 15, 2015. In connection with this offering, we also issued to the placement agent and its affiliates warrants to purchase a total of 23,719 ordinary shares at an exercise price of $10.00 per share. Net proceeds to us from the 2010 registered offering, after fees and expenses, were approximately $4.65 million.

- On December 1, 2010, we completed a private placement (referred to herein as the "2010 PIPE"), pursuant to which we sold an aggregate of 625,000 of our ordinary shares at a price of $4.00 per share and issued Series A warrants to purchase up to an aggregate of 312,504 ordinary shares with an initial exercise price of $5.20 per share and Series B warrants to purchase up to an aggregate of 156,250 ordinary shares with an exercise price of $0.04 per share. The Series A warrants expire on December 1, 2015. On February 9, 2011, the Series B warrants were automatically exercised on a cashless basis and we issued an aggregate of 154,611 ordinary shares. In connection with the 2010 PIPE, we also issued to the placement agent and its affiliates warrants to purchase a total of 15,626 ordinary shares at an exercise price of $5.20 per share. Following the 2011 PIPE and the 2011 registered offering (each as defined below), the exercise price of the Series A warrants and the warrants issued to the placement agent and its affiliates in the 2010 Private Placement was adjusted to $4.00 per share pursuant to the terms thereof. Net proceeds to us from the 2010 PIPE, after fees and expenses, were approximately $2.2 million.

- On February 23, 2011, we completed a private placement (referred to herein as the "2011 PIPE"), pursuant to which we sold an aggregate of 1,135,417 of our ordinary shares at a price of $2.40 per share and issued warrants to purchase up to an aggregate of 851,566 ordinary shares at an exercise price of $3.20 per share. The warrants expire on February 23, 2016. In connection with the 2011 PIPE, we also issued to the placement agent and its affiliates warrants to purchase a total of 28,388 ordinary shares at an exercise price of $3.20 per share. On February 23, 2011, we also completed a concurrent registered direct offering (referred to herein as the "2011 registered offering"), pursuant to which we sold an aggregate of 1,364,668 of our ordinary shares at a price of $2.40 per share and issued warrants to purchase up to an aggregate of 682,338 ordinary shares with an exercise price of $3.20 per share. The warrants expire on February 23, 2016. In connection with the 2011 registered offering, we also issued to the placement agent and its affiliates warrants to purchase a total of 34,118 ordinary shares at an exercise price of $3.00 per share. Aggregate net proceeds to us from these concurrent offerings, after fees and expenses, were approximately $5.5 million.

- On October 19, 2011, we completed a private placement (referred to herein as the "October 2011 PIPE"), pursuant to which we sold an aggregate of 2,025,001 ordinary shares at $0.75 per share, and issued warrants to purchase up to an aggregate of 2,025,001 ordinary shares (the "Series A Warrants") and warrants to purchase up to an aggregate of 1,012,502 ordinary shares (the "Series B Warrants"). The Series A Warrants expire on October 19, 2016 and were initially exercisable at $1.00 per share. Pursuant to the anti-dilution provisions of the Series A Warrants, on November 25, 2011, the exercise price of the Series A Warrants was adjusted to $0.50 per share. The Series B warrants were exercisable for the greater of $ 0.01 or NIS 0.04 per share, and were automatically exercised on a cashless basis on November 28, 2011, and an aggregate of 986,225 ordinary shares were issued to the October 2011 PIPE investors. Net proceeds to us from the October 2011 PIPE, after fees and expenses, were approximately $1.3 million.

- On December 16, 2011, we closed a transaction, pursuant to which we sold all of the ordinary shares of Rosetta Green held by us (approximately 50.03% of the outstanding ordinary shares of Rosetta Green) to certain purchasers. The transaction was effected pursuant to a Share Transfer Agreement, dated December 13, 2011. Under the terms of the Share Transfer Agreement, we received an upfront payment of $900,000 for the Rosetta Green ordinary shares.

- On January 26, 2012, we entered into a Secured Loan Agreement, pursuant to which on January 27, 2012, we sold and issued a $1,750,000 senior secured debenture (the "Debenture") to an accredited investor (the "Lender"). The Debenture has a maturity date of January 26, 2013 and accrues interest at a rate of 10% per annum, payable semi-annually. Beginning on March 15, 2012, an aggregate of $300,000 in principal amount of the Debenture became convertible, subject to certain limitations, into our ordinary shares at a conversion price of $0.0944 per share. The Debenture is secured by a security interest in all current and future assets of Rosetta and any current or future subsidiary, including Rosetta Genomics Inc. Pursuant to the terms of the Secured Loan Agreement, we also agreed to negotiate a definitive license agreement (the "License Agreement") in good faith with a designee of the Lender, which was also obligated to negotiate in good faith. The Debenture may only be prepaid by us, in whole or in part, (1) after a definitive License Agreement is executed or (ii) prior thereto, only with the consent of the holder. In addition, if our ordinary shares are suspended from trading on or delisted from the NASDAQ Capital Market for more than 10 trading days, the holder has the right to require us to redeem the Debenture in 90 days. With respect to any prepayment or redemption, we would be required to pay (i) 120% of the amount being prepaid or redeemed for the first such event or (ii) if there is more than one such prepayment or redemption event, 120%

plus an additional 10% of the amount being prepaid or redeemed for each such subsequent event after the first one. Upon an "event of default" (as defined in the Debenture), or if a definitive License Agreement was not entered into between the parties by March 15, 2012, the interest rate on the Debenture would increase to 18% per annum, with, in the latter event, the additional interest payable, at our option, in cash or ordinary shares at the applicable conversion price. We have not been able to reach agreement on the definitive License Agreement with the designee of the Lender.

We have focused our efforts since inception primarily on research and development, building and maintaining our intellectual property, business planning and raising capital. We have not achieved profitability and we expect to incur significant additional losses over the next several years. We expect our net losses to increase primarily due to research and development activities relating to our internal product development, collaborations, business development and other general corporate activities. We anticipate that our operating results will fluctuate for the foreseeable future. Therefore, period-to-period comparisons should not be relied upon as predictive of the results in future periods. Our sources of potential funding for the next several years are expected to include our existing cash, cash equivalents, restricted cash and short term bank deposits and marketable securities of $0.88 million as of December 31, 2011, additional equity and/or debt financings, royalties, license and other fees, funded research and development payments, and milestone payments under existing and future collaborative arrangements. In the event that we do not raise sufficient funds to support our operations, we may be required to seek protection under the bankruptcy laws of Israel and the United States.

Research and development expenses represented 40%, 42%, and 45% of our total operating expenses for the years ended December 31, 2011, 2010 and 2009, respectively. We have not tracked our historical research and development costs on a project-by-project basis because the majority of our efforts have been focused on the development of capabilities associated with our microRNA discovery process rather than on specific projects. Major components of the $3.4 million in research and development expenses for the year ended December 31, 2011 included payroll and related expenses, research materials and related expenses, costs associated with license fees and intellectual property-related costs.

On July 2008, through our wholly owned subsidiary Rosetta Genomics Inc., we purchased all of the shares of Parkway Clinical Laboratories, Inc., a privately held Pennsylvania corporation owning a CLIA-certified laboratory, for an aggregate purchase price of $2,900,000 (not including $207,000 of transaction expenses), consisting of $1,900,000 in cash and $1,000,000 of our ordinary shares, plus an additional $300,000 payable upon the achievement of certain milestones, which were not met. Parkway remained an indirect wholly owned subsidiary until May 2009, when we sold Parkway for a purchase price of up to $2,500,000, to be paid as a fixed percentage of revenues over six years. During the years ended December 31, 2010 and December 31, 2009, we received an amount of $148,000 and $48,000, respectively, in respect of this consideration. These payments are lower than the amounts due to us under Parkway's sale agreement and we have been experiencing collection problems with Parkway's buyer since the sale. Operating results for Parkway have been classified as discontinued operations for all presented periods.

On February 4, 2010, we established Rosetta Green Ltd., an Israeli Company, as a controlled subsidiary. As of December 31, 2010, we owned approximately 76.2% of the outstanding ordinary shares of Rosetta Green. In February 2011, Rosetta Green completed an initial public offering in Israel on the Tel Aviv Stock Exchange, or TASE. In December 2011, we have sold all our holdings in Rosetta Green (approximately 50.03% of the outstanding shares of Rosetta Green). See also "Item 4.B. Business Overview – Rosetta Green."

On November 22, 2010, we and Prometheus Laboratories Inc. entered into a Settlement Agreement and Mutual Release (the "Settlement Agreement") to resolve the various disputes between the parties relating to the License Agreement, the Laboratory Services Agreement, dated April 10, 2009, and the Stock Purchase Agreement, dated April 10, 2009, including all claims relating to the arbitration proceeding. See "Item 8. Financial Information — A. Consolidated Statements and Other Information — Legal Proceedings."

In October 2011, we issued a press release announcing a corporate restructuring to reduce operating expenses and focus on commercial opportunities. The restructuring is expected to result in a 50% reduction in the Company's monthly cash burn, thereby reducing annual operating expenses by approximately $4.2 million. As part of this restructuring, we eliminated 28 positions or nearly 58% of our global workforce, primarily in research and development and general and administrative positions and reduced our laboratory and office space in Israel.

Based on our current operating plans, we expect that our existing funds, including the net proceeds from the sale of the Rosetta Green shares in December 2011, and the sale of the Debenture in January 2012 will be sufficient to fund operations only until late May, 2012.

**Financial Operations Overview**

***Revenues***

Revenues from continuing operations consist of revenues from royalties and revenues from diagnostic tests performed in our laboratory in Philadelphia. Our first diagnostic products applying our microRNA technology that were launched in late 2008 began generating revenues in 2009.We have generated revenues from continuing operations in the year ended December 31, 2009 in an

amount of $150,000, in the year ended December 31, 2010 in the amount of $279,000 and in the year ended December 31 2011 in the amount of $103,000.

Our ability to continue to operate is dependent on the completion of the development of our products, the ability to market and sell our products and additional financing until profitability is achieved.

***Cost of Revenues***

Cost of revenues referring to services consists primarily of the operational costs of our subsidiary, Rosetta Genomics Inc., which mainly include salaries and employee benefits, consulting, costs related to rent and maintenance. Cost of revenues referring to products includes expenses related to the cost of purchasing or manufacturing our products.

***Research and Development Expenses, net***

We expense research and development costs as incurred. Our research and development expenses currently include costs of salaries and related expenses, activities related to intellectual property and licensing, tissue samples and other research materials, supplies, equipment depreciation, outsourced clinical and other research activities, consultants, utilities expenses and an allocation of corporate administrative costs. Due to the restructuring done in October 2010 and October 2011, we expect these expenses to decrease in 2012.

We are currently conducting a number of studies analyzing microRNA expression profiles in healthy and diseased samples and expect we will continue such studies in 2012. As a result, we expect that our expenses related to the purchase of tissue and body fluid samples, as well as other research consumables, will increase in the future. We have entered into several license agreements for rights to utilize certain technologies. The terms of the licenses provide for up-front payments, annual maintenance payments and royalties on product sales. Costs to acquire and maintain licensed technology are expensed as incurred.

***Marketing and Business Development Expenses***

Marketing and business development expenses consist primarily of salaries and related expenses, costs of post marketing validation studies, and expenses related to travel, legal and general business development activities. As we continue to explore new collaborations to develop and commercialize diagnostic and therapeutic products based on microRNAs, we anticipate that these expenses will increase.

***General and Administrative Expenses***

General and administrative expenses consist primarily of salaries and related expenses, professional fees and expenses related to general corporate activities. We anticipate that general and administrative expenses will decrease in 2012 due to the corporate restructuring to reduce operating expenses and focus on commercial opportunities done in October 2011.

***Financial Expenses (Income)***

Financial expenses consist of bank and interest expenses and changes in the fair value of our future payments pursuant to our settlement agreement with Prometheus Laboratories Inc. See “Item 8. Financial Information — A. Consolidated Statements and Other Information — Legal Proceedings.” Financial income includes interest income, which interest is earned on deposits and marketable securities we maintain with banks, realized gains on marketable securities and revaluation of warrants related to share purchase agreements. In addition, financial expenses and income include expenses and income related to the impact of fluctuations in the exchange rate between the NIS and the U.S. dollar.

**Critical Accounting Policies and Estimates**

Our discussion and analysis of our financial condition and results of operations is based on our consolidated financial statements, which have been prepared in conformity with U.S. generally accepted accounting principles, or U.S. GAAP. The preparation of our consolidated financial statements requires us to make estimates and judgments that affect the reported amounts of assets, liabilities, revenues and expenses. On an ongoing basis, we evaluate our estimates and judgments. We base our estimates on historical experience and on various other assumptions that we believe to be reasonable under the circumstances, the results of which form the basis for making judgments about the carrying values of assets and liabilities that are not readily apparent from other sources. Actual results may differ from these estimates under different assumptions or conditions and could have a material impact on our reported results.

While our significant accounting policies are more fully described in the notes to our consolidated financial statements included in this annual report, we believe the following accounting policies to be the most critical in understanding our consolidated financial statements and the assumptions management used.

***Fair Value Measurements and Disclosures***

The fair value of the liability for each class of warrants related to 2010 and 2011 financing agreements was calculated using either the Black Scholes Model or Monte Carlo Simulation, depending on the terms and rights of each class of warrants, We accounted for these warrants according to the provisions of ASC 815, "Derivatives and Hedging - Contracts in Entity's Own Equity" and based on certain terms of the warrants classified them as liabilities, measured at fair value each reporting period until they are exercised or expire, with changes in the fair values being recognized in the Company's statement of operations as financial income or expense.

We determine the fair value of certain warrants using Monte Carlo simulation paths of our stock prices. The Monte Carlo Model was chosen following the need to calculate the market price of the shares on NASDAQ over warrants lifespan and under different scenarios.

The above approach to valuation uses estimates, which are consistent with the plans, and estimates that we use to manage our business. There is inherent uncertainty in making these estimates.

***Revenue Recognition***

Revenues from sales of our products are recognized in accordance with Staff Accounting Bulletin No. 104, "Revenue Recognition in Financial Statements" ("SAB No. 104"), when delivery has occurred, persuasive evidence of an agreement exists, the vendor's fee is fixed or determinable, no further obligation exists and collectability is probable.

In arrangements, primarily with private patients, in which prior to delivery the patient's third-party insurance provider has not contractually set the sale prices, we do not recognize revenue until the fees are fixed and determinable and collectability assured.

Revenues from collaborative agreements consist primarily of royalty payments, payments for research and developmental services, up-front fees and milestone payments. If an arrangement requires the delivery or performance of multiple deliverables or service elements, we determine whether the individual elements represent "separate units of accounting" under the requirements of ASC 605-25 "Multiple-Element Arrangements".

If the separate elements meet the requirements of ASC 605-25, we recognize the revenue associated with each element separately and revenue is allocated among elements based on relative fair value. If the elements within a multiple deliverable arrangement are not considered separate units of accounting, the delivery of an individual element is considered not to have occurred if there are undelivered elements that are considered essential to the arrangement. Revenue resulting from the achievement of contingent milestone events stipulated in the agreements is recognized when the milestone is achieved. Milestones are based upon the occurrence of a substantive element specified in the contract.

In the year ended December 31, 2011, we recognized $103,000 as revenues from continuing operations.

***Accounting for Stock-Based Compensation***

We account for stock-based compensation in accordance with ASC 718 “Compensation- stock compensation” **(**formerly Statement of Financial Accounting Standard No. 123 (revised 2004), "Share-Based Payment" ("SFAS No. 123(R)")). ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as an expense over the requisite service periods in our consolidated income statements.

We recognize compensation expenses for the value of awards granted based on the straight line method over the requisite service period of each of the awards, net of estimated forfeitures. ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Estimated forfeitures are based on actual historical pre-vesting forfeitures. The term “forfeitures” is distinct from “cancellations” or “expirations” and represents only the unvested portion of the surrendered option. We currently expect, based on an analysis of our historical forfeitures, that approximately 58% of our options will actually vest, and therefore have applied an annual forfeiture rate of 42%to all options that are not vested as of December 31, 2011. Ultimately, the actual expenses recognized over the vesting period will only be for those shares that vest.

We selected the Black-Scholes option pricing model as the most appropriate fair value method for stock-option awards and value restricted stock based on the market value of the underlying shares at the date of grant. The option-pricing model requires a number of assumptions, of which the most significant are the expected stock price volatility and the expected option term. The computation of expected volatility is based on realized historical stock price of our stock starting from the IPO date. As a result of the above-mentioned calculations, the volatility used for the twelve months ended December 31, 2011 and 2010 was 88% and between 67-61%, respectively. The risk-free interest rate assumption is the implied yield currently available on United States treasury zero-coupon issues with a remaining term equal to the expected life term of our options. We determined the expected life of the options according to the simplified method, average of vesting and the contractual term of the options.

We apply ASC 718 and ASC 505-50 "Equity-Based Payments to Non-Employees" (formerly EITF No. 96-18 "Accounting for Equity Instruments That Are Issued to Other Than Employees for Acquiring or in Conjunction with Selling, Goods or Services"), with respect to options and warrants issued to non-employees. ASC 718 requires the use of option valuation models to measure the fair value of the options and warrants at the measurement date.

At the end of each financial reporting period prior to vesting, the value of these options, as calculated using the Black-Scholes option pricing model, was re-measured using the then current fair value of our ordinary shares. Since the fair market value of the ordinary

shares to non-employees is subject to change in the future, the compensation expense recognized during the years ended December 31, 2011, 2010 and 2009 may not be indicative of future compensation charges.

***Impairment of Long-Lived Assets***

The long-lived assets of us and of our subsidiaries and all identifiable intangible assets that are subject to amortization are reviewed for impairment in accordance with ASC 360, "Property, plant and equipment"/ ASC 250 "presentation of financial statement" (Formerly Statement of Financial Accounting Standard No. 144 "Accounting for the Impairment or Disposal of Long-Lived Assets"), whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the assets. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. As of December 31, 2011, 2010 and 2009, no impairment losses have been identified.

***Discounted Future Cash Flow Method (DCF) - Future consideration from Parkway***

To determine the fair value of the receivable that is related to Parkway's sale as of December 31, 2009, December 31, 2010 and December 31, 2011, we performed a valuation using DCF methodology at each valuation date. Under the DCF method, the fair value of receivable asset is estimated based on the stream of benefits the Company expects to receive, the timing of such benefits and the risk borne by Parkway.

**Recently Issued Accounting Standards**

In May 2011, the FASB issued ASU 2011-04, Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP. This pronouncement is an authoritative guidance to amend certain measurement and disclosure requirements related to fair value measurements to improve consistency with international reporting standards. This guidance is effective prospectively for public entities for interim and annual reporting periods beginning after December 15, 2011, with early adoption prohibited. We are currently evaluating the effect of ASU 2011-04, but do not expect its adoption will have a material effect on our consolidated financial statements.

In June 2011, the FASB issued ASU 2011-05, Comprehensive Income (Topic 220): Presentation of Comprehensive Income, which specifies that the total of comprehensive income, the components of net income and the components of other comprehensive income are to be presented in either a single continuous statement of comprehensive income or in two separate but consecutive statements. This update eliminates the option to present the components of other comprehensive income as part of the statement of changes in stockholders' equity. No change has been made in the items to be reported in comprehensive income. ASU 2011-05 is effective for the interim and annual periods beginning after December 15, 2011, and should be applied retrospectively. We are currently evaluating the effect of ASU 2011-05, but do not expect its adoption will have a material effect on our consolidated financial statements.

In December 2011, the FASB issued Accounting Standards Update 2011-12, Comprehensive Income (Topic 220). The amendments in this Update supersede certain pending paragraphs in Accounting Standards Update 2011-05, Comprehensive Income (Topic 220): Presentation of Comprehensive Income, to effectively defer only those changes in Update 2011-5 that relate to the presentation of reclassification adjustments out of accumulated other comprehensive income. For public entities, the amendments are effective for fiscal years, and interim periods within those years, beginning after December 15, 2011. We are currently evaluating the effect of this update on our consolidated financial statements.

***A. OPERATING RESULTS***

***Years Ended December 31, 2011 and 2010 - Continuing Operations***

*Revenues.* In the years ended December 31, 2011 and December 31, 2010, we recognized $103,000 and $279,000, respectively, as revenues from continuing operations. This decrease resulted primarily from cessation of sales by our former distributor in the United States in late 2010. See “Item 8. Financial Information — A. Consolidated Statements and Other Information — Legal Proceedings.”

*Cost of revenues.*Cost of revenues were $324,000 for the year ended December 31, 2011, including $19,000 of non-cash stock-based compensation, as compared to $628,000 for the year ended December 31, 2010, including $11,000 of non-cash stock-based compensation. This decrease resulted primarily from a decrease in the revenues.

*Research and development expense, net.* Research and development expenses were $3.4 million for the year ended December 31, 2011, including $181,000 of non-cash stock-based compensation, as compared to $5.7million for the year ended December 31, 2010,

including $231,000 of non-cash stock-based compensation. Research and development expenses for the year ended December 31, 2011 have been reduced significantly compared to 2010. This decrease resulted primarily from our restructuring efforts in October 2010 and during 2011.

Royalty bearing grants from the Bi-national Industrial Research and Development Foundation and from the Chief Scientist of Israel's Ministry of Industry, Trade and Labor for funding approved research and development projects are presented as a reduction from the research and development expenses (see also Note 9.l in the financial statements). The Company received grants in an amount of $ 206,000 and $ 0, in the years 2011 and 2010, respectively.

*Marketing and business development expenses.* Marketing and business development expenses were $2.6 million for the year ended December 31, 2011, including $266,000 of non-cash stock-based compensation, as compared to $4.9 million for the year ended December 31, 2010, including $272,000 of non-cash stock-based compensation. This decrease resulted primarily from our restructuring efforts in October 2010 and during 2011.

*General and administrative expenses.* General and administrative expenses were $2.5 million for the year ended December 31, 2011, including $138,000 of non-cash stock-based compensation, as compared to $2.4 million for the year ended December 31, 2010, including $243,000 of non-cash stock-based compensation. This decrease resulted primarily from our restructuring efforts in October 2010 and during 2011.

*Other operating expenses related to the settlement with Prometheus.* Other operating expenses related to the settlement with Prometheus were $0 for the year ended December 31, 2011, as compared to $554,000 for the year ended December 31, 2010. These expenses in 2010 reflect the fair value of certain payments due to Prometheus pursuant to the settlement agreement, net of the $1,700,000 deferred revenues and the development fund recognized.

*Financial expenses (income), net.* Net financial income was $1.4 million for the year ended December 31, 2011, as compared to net financial income of $1 million for the year ended December 31, 2010. Financial income in 2011 included $1.6 million for revaluation of warrants this was offset by $251,000 expenses related to issuance cost derived from warrants related to share purchase agreements.

***Years Ended December 31, 2010 and 2009 - Continuing Operations***

*Revenues.* In the years ended December 31, 2010 and December 31, 2009, we recognized $279,000 and $150,000, respectively, as revenues from continuing operations. This increase resulted primarily from sales to our former distributor in the United States. See "Item 8. Financial Information — A. Consolidated Statements and Other Information — Legal Proceedings."

*Cost of revenues.*Cost of revenues were $628,000 for the year ended December 31, 2010, including $11,000 of non-cash stock-based compensation, as compared to $339,000 for the year ended December 31, 2009, including $0 of non-cash stock-based compensation. This increase resulted primarily from an increase in the activities of our CLIA-certified laboratory, due to increased sales.

*Research and development expense, net.* Research and development expenses were $5.7 million for the year ended December 31, 2010, including $213,000 of non-cash stock-based compensation, as compared to $6.6 million for the year ended December 31, 2009, including $321,000 of non-cash stock-based compensation.

Royalty bearing grants from the Bi-national Industrial Research and Development Foundation and from the Chief Scientist of Israel's Ministry of Industry, Trade and Labor for funding approved research and development projects are presented as a reduction from the research and development expenses (see also Note 9.l in the financial statements). The Company received grants in an amount of $ 0 and $ 297, in the years 2010 and 2009, respectively.

*Marketing and business development expenses.* Marketing and business development expenses were $4.9 million for the year ended December 31, 2010, including $272,000 of non-cash stock-based compensation, as compared to $4.5 million for the year ended December 31, 2009, including $584,000 of non-cash stock-based compensation. This increase resulted primarily from an increase in legal expenses related to certain commercial agreements.

*General and administrative expenses.* General and administrative expenses were $2.4 million for the year ended December 31, 2010, including $242,000 of noncash stock-based compensation, as compared to $3.6 million for the year ended December 31, 2009, including $519,000 of non-cash stock-based compensation. This decrease resulted primarily from a decrease in expenses related to professional fees.

*Other operating expenses related to the settlement with Prometheus.* Other operating expenses related to the settlement with Prometheus were $554,000 for the year ended December 31, 2010, as compared to $0 for the year ended December 31, 2009. These expenses reflect the fair value of certain payments due to Prometheus pursuant to the settlement agreement, net of the $1,700,000 deferred revenues and the development fund recognized.

*Financial expenses (income), net.* Net financial income was $1.1 million for the year ended December 31, 2010, as compared to net financial income of $45,000 for the year ended December 31, 2009. Financial income in 2010 included $1.1 million related to the

revaluation of warrants related to share purchase agreements that are accounted for and presented as liability set off by $244,000 expenses related to legal and accounting in connection with the 2010 registered offering and the 2010 PIPE.

***Years Ended December 31, 2011, 2010, and 2009 - Discontinuing Operations***

According to ASC 360, "Property, Plant, and Equipment" / ASC 205, "Presentation of Financial Statements" when a component of an entity, as defined in ASC 360, has been disposed of, the results of its operations, including the gain or loss on its disposal should be classified as discontinued operations when the operations and cash flows of the component have been eliminated from the Company's consolidated operations and the Company will no longer have any significant continuing involvement in the operations of the component.

Since Rosetta Green was consolidated prior to the disposal it met the criteria for reporting as discontinued operations and, therefore, the results of operations of the business and the loss on the sale have been classified as discontinued operations loss in the statement of operations and prior periods results have been reclassified accordingly. In addition, the comparative data of the assets and liabilities have been reclassified as assets and liabilities attributed to discontinued operations in the balance sheets.

The sale of Parkway met the criteria for reporting as discontinued operations and, therefore, the results of operations of the business and the loss on the sale have been classified as discontinued operations in the statement of operations and prior periods results have been reclassified accordingly. In addition, the comparative data of the assets and liabilities have been reclassified as assets and liabilities attributed to discontinued operations in the balance sheets.

### *B. LIQUIDITY AND CAPITAL RESOURCES*

Since our inception, we have generated significant losses and expect to continue to generate losses for the foreseeable future.

We are addressing our liquidity issues by implementing initiatives to allow covering of our anticipated budget deficit for 2012. During 2011 we initiated costs reduction measures that reduced our research and development activities and manpowers. Such initiatives also included monetizing part of our assets, such as our shares in Rosetta Green and fixed assets.

There are no assurances, however, that we will be successful in obtaining an adequate level of financing needed for the long-term development and commercialization of our products. These conditions raise substantial doubt about our ability to continue as a "going concern".

As of December 31, 2011, we had an accumulated deficit of $85 million since inception. We have funded our operations primarily through the proceeds from the sales of our equity securities. Through December 31, 2011, we had received aggregate gross proceeds of approximately $85 million from the sales of our equity securities. As of December 31, 2011, we had cash, cash equivalents, short-term bank deposits and restricted cash of $884 thousand, compared to $2 million as of December 31, 2010. In addition, in January 2012, we have sold a $1.75 million senior secured convertible debenture in a private placement transaction. See "Item 5. Operating and Financial Review and Prospects — Overview". Based on our current operations, our existing funds, including the proceeds from the January 2012 debt financing, will only be sufficient to fund operations until late May, 2012. We intend to seek funding through collaborative arrangements and public or private equity offerings and debt financings.

#### *Cash Flows*

*Net cash used in operating activities.* Net cash used in operating activities from continuing operations was $10 million in 2011, compared to $14 million in 2010 and $12.2 million in 2009. These amounts were used to fund our net losses for these periods, adjusted for non-cash expenses and changes in operating assets and liabilities. Net cash used in operating activities from discontinued operations in 2011 was $1.2 million, compared to $268 thousand net cash provided by operating activities from discontinued operations in 2010 and $458 thousand in 2009.

*Net cash used in investing activities.* Net cash provided by (used in) investing activities from continuing operations was $1.2 million in 2011, compared to net cash provided by (used in) investing activities of $6.2 million in 2010 and net cash provided by (used in) investing activities of $5.1 million in 2009. Net cash used in investing activities in 2011 is primarily from the sales net of purchase of property and equipment and the sale of Rosetta Green shares. Net cash provided by investing activities in 2010 is primarily from the decrease in bank deposits and restricted cash and sales net of purchases of marketable securities, net of purchase of property and equipment. Net cash used in investing activities in 2009 is primarily from the purchase of marketable securities. Net cash used in investing activities from discontinued operations in 2011 was $3.7 million compared to $15,000 in 2010 and $12,000 in 2009.

*Net cash provided by financing activities.* Net cash provided by financing activities from continuing operations was $9.6 million in 2011, compared to $7 million in 2010 and $6.4 million in 2009. In 2011, net cash provided from financing activities consisted primarily of proceeds from the issuance of shares and warrants. In 2010, net cash provided from financing activities consisted primarily of proceeds from the issuance of shares. In 2009, net cash provided from financing activities consisted primarily from proceeds from the issuance of shares and the issuance of a convertible loan. Net cash provided by financing activities from discontinued operations in 2011 was $2.2 million compared to $0 in 2010 and $24,000 in 2009.

***Funding Requirements***

We expect to incur continuing and increasing losses from operations for at least the next several years. In particular, we expect to incur significant research and development expenses, marketing and business development expenses and general and administrative expenses in the future as we expand our operations and product development efforts and continue operating as a public company. We believe that our existing cash, cash equivalents (including the net proceeds from the sale of the Rosetta Green shares in December 2011, and the sale of the Debenture in January 2012), short term bank deposits and marketable securities, and funding we expect to receive under our current collaboration and license agreements will be sufficient to fund our operations only until late May, 2012. However, our funding requirements may change and will depend upon numerous factors, including but not limited to:

- progress in our research and development programs;
- the resources, time and costs required to initiate and complete development and any required preclinical studies and clinical trials, and obtain regulatory approvals for our products;
- the timing, receipt, and amount of milestone, royalty and other payments from present and future collaborators, if any;
- costs necessary to protect our intellectual property; and
- the timing, receipt and amount of sales, if any, by us of any approved products.

We will require substantial additional funding and expect to augment our cash balance through financing transactions, including the issuance of debt or equity securities and further strategic collaborations. On November 12, 2009, we filed a shelf registration statement on Form F-3 with the SEC for the issuance of ordinary shares, various series of debt securities and/or warrants to purchase any of such securities, either individually or in units, with a total value of up to $75 million, from time to time at prices and on terms to be determined at the time of such offerings. The filing was declared effective on November 24, 2009. After taking into account the ordinary shares and warrants we issued in the 2010 registered offering and the ordinary shares and warrants we issued in the 2011 registered offering, we have approximately $61.3 million of securities remaining available for sale under our effective shelf registration statement, although we may be limited by the rules and regulations of the SEC and the NASDAQ Stock Market in the amount of securities we may offer under this registration statement. No arrangements have been entered into for any future financing, and there can be no assurance that we will be able to obtain adequate levels of additional funding on favorable terms, if at all. If adequate funds are not available, we may be required to:

- delay, reduce the scope of or eliminate certain research and development programs;
- obtain funds through arrangements with collaborators or others on terms unfavorable to us or that may require us to relinquish rights to certain technologies or products that we might otherwise seek to develop or commercialize independently;
- monetizing certain of our assets; and
- pursue merger or acquisition strategies; or
- seek protection under the bankruptcy laws of Israel and the United States.

### *C. RESEARCH AND DEVELOPMENT, PATENTS AND LICENSES, ETC.*

Our research and development expenditures were $3.4 million, $5.7 million and $6.6 million, in the years ended December 31, 2011, 2010 and 2009, respectively. See also “Item 5. Operating and Financial Review and Prospects - Financial Operations Overview - Research and Development Expenses.”

### *D. TREND INFORMATION*

See “Item 5. Operating and Financial Review and Prospects.”

### *E. OFF-BALANCE SHEET ARRANGEMENTS*

We are not party to any material off-balance-sheet arrangements.

### *F. TABULAR DISCLOSURE OF CONTRACTUAL OBLIGATIONS*

Set forth below is a description of our contractual cash obligations as of December 31, 2011. Operating and capital lease obligations consist of rent payable under our existing facility leases and lease payments for company automobiles and equipment. Other long-term obligations consist of cash obligations under various license agreements.

| (In thousands) | Total |
|---|---|
| Operating and capital lease obligations | $ |
| Other long-term liabilities | $ |

Under our license agreements as of December 31, 2011, we are obligated to pay an aggregate amount of approximately $158,000 annually after 2016 and until 2022, $100,000 annually after 2022 and until 2029 and $10,000 annually after 2029 and until 2032. Each of these agreements terminates upon the expiration of all patents relating to such agreement, including patents to be filed and potentially issued at an indeterminable date in the future, and, thus, such termination dates cannot be determined at this time. Accordingly, we are also unable to determine the aggregate amount of such payments due after 2016 at this time. However, based on current facts and circumstances, we estimate that our obligations under these agreements will be through at least 2032. See "Item 4. Information on the Company" for more information on our contractual obligations.

The above table does not include obligations for accrued severance pay, which as of December 31, 2011 was $159,000, of which $133,000 was funded through deposits into severance pay funds, leaving a net obligation of $26,000.

## ITEM 6. DIRECTORS, SENIOR MANAGEMENT AND EMPLOYEES

### *A. DIRECTORS AND SENIOR MANAGEMENT*

The following table sets forth information regarding our corporate and executive officers and directors:

| Name | Age |
|---|---|
| Kenneth A. Berlin | 47 |
| Ranit Aharonov, Ph.D. | 42 |
| Tomer Assis, CPA | 40 |
| Oded Biran | 33 |
| Brian Markison (3) | 52 |
| Dr. David Sidransky, M.D. (1) | 51 |
| Joshua Rosensweig, Ph.D. | 59 |
| Gerald Dogon (1)(2)(3) | 72 |
| Tali Yaron-Eldar (1)(2) | 48 |

(1) Member of our Audit Committee
(2) Member of our Compensation Committee
(3) Member of our Nominating and Corporate Governance Committee

*Kenneth A. Berlin* joined us in November 2009 as our President and Chief Executive Officer. He was later appointed by our shareholders in December 2009 as a member of our board of directors, and resigned as a director in March 2011. Prior to joining us, Mr. Berlin, served as Worldwide General Manager at cellular and molecular cancer diagnostics developer Veridex, LLC, a Johnson & Johnson company. Under his leadership the organization grew to over 100 employees, and he spearheaded the launch of three cancer diagnostic products, the acquisition of its cellular diagnostics partner, and delivered significant growth in sales as Veridex transitioned from a research and development entity to a commercial provider of oncology diagnostic products and services. During Mr. Berlin's tenure, Veridex received numerous awards including recognition from the Cleveland Clinic and Prix Galien for the use of its innovative CellSearch® technology in the fight against cancer. Mr. Berlin joined Johnson & Johnson in 1994 and served as corporate counsel for six years. He then held positions of increasing responsibility within Johnson & Johnson and a number of its subsidiary companies. From 2001 until 2004, he served as Vice President, licensing and new business development in the pharmaceuticals group, and from 2004 until 2007 was Worldwide Vice President, franchise development, Ortho-Clinical Diagnostics. Mr. Berlin holds an A.B. degree from Princeton University and a J.D. from the University of California Los Angeles School of Law.

*Ranit Aharonov, Ph.D.* has served as our Executive Vice President, R&D, Head of Computational Biology since February 2008. Dr. Aharonov joined us in March 2003 and previously held other positions, including Executive Vice President of Intellectual Property and Computational Biology, Vice President of Research and Product Strategy, Vice President, Research and Director, Algorithms. Prior to joining us, from October 1998 until September 2002, Dr. Aharonov taught Neural Computation-related courses at the Hebrew University of Jerusalem. She is the author of 14 papers published in peer reviewed journals and the co-author of eight patents and 21 patent applications, and was an adjunct lecturer in Neural Network Theory and Applications at the Brain Science Institute of Bar-Ilan University. Dr. Aharonov earned her Ph.D. in Neural Computation from the Hebrew University in Jerusalem.

*Tomer Assis, CPA (Israel)* has served as our Interim Chief Financial Officer since November 2011. Mr. Assis is self-employed and provides CFO and Business services to his customers and also the VP Finance at BackWeb Technologies Ltd. since February 2008. Mr. Assis has over 10 years of International business and finance management experience. Prior to joining BackWeb, Mr. Assis served as Director of Finance at CellNet Solutions Ltd., and Internationl Controller for Check Point Technologies Ltd. Mr. Assis also served as Controller of the Israeli subsidiaries at M+W Zander Group and worked with the accounting firms, Ernst & Young and Grant Thornton in Israel. Mr. Assis is a Certified Public Accountant in Israel and holds a B.A. in Business Administration, Accounting and Finance from The College of Management in Israel.

*Oded Biran* has served as our General Counsel since November 2011. Mr. Biran was an independent attorney between the years 2010-2011, after previously working for us as legal counsel between June and November 2010. Prior to that, Mr. Biran was an associate in the law offices of Sharon Raviv and Co., a boutique law firm specializing in technology and communications, between December 2009 and June 2010. During the years of 2008 and 2009, Mr. Biran was an associate in Raved Magriso, Benkel, Lahav and Co.'s, where he practiced in the corporate and securities department, specializing in corporate, technology, IP and complex mergers and acquisitions transactions. During 2006-2007, Mr. Biran was an associate at Gabriel Reubinoff and Co.'s Tel Aviv office where he co-headed the firm's class action department. Mr. Biran holds a L.L.B degree from the Hebrew University in Jerusalem and is a member of the Israeli Bar Association.

*Brian Markison* has served as a member of our board of directors since March 2011. Mr. Markison was appointed by our board of directors to fill the vacancy created by the resignation of Mr. Berlin. Mr. Markison's appointment was approved by the general meeting dated July 6, 2011. After the resignation of Mr. Yoav Chelouche as chairman of the board of directors on April 12, 2011, Mr. Markison was appointed as chairman of the board. Mr. Markison is President, Chief Executive Officer and a member of the Board of Directors of Fougera Pharmaceuticals Inc., since July 2011. Previously, he had been with King Pharmaceuticals since 2004 and led the company through its acquisition by Pfizer for $3.6 billion in 2010. Previously Mr. Markison was with Bristol-Myers Squibb from 1982 to 2004, where he served in various commercial and executive positions rising from an oncology sales representative to become President, BMS Oncology/Virology and Oncology Therapeutics Network. Mr. Markison serves on the board of directors of Immunomedics, Inc. and PharmAthene Inc.. He also serves on the board of directors for the Komen Foundation and on the Board of Trustees for the Pennington School. Mr. Markison received a B.S. from Iona College in New Rochelle, New York.

*David Sidransky, M.D.,* has served as a member of our board of directors since December 22, 2009. Dr. Sidransky is a renowned oncologist and research scientist named and profiled by TIME magazine in 2001 as one of the top physicians and scientists in America, recognized for his work with early detection of cancer. He serves as Executive Officer of Biomerk, Inc. and as Director of the Head and Neck Cancer Research Program at the Sidney Kimmel Comprehensive Cancer Center at Johns Hopkins University. He is a Professor of Oncology, Otolaryngology, Cellular & Molecular Medicine, Urology, Genetics, and Pathology at John Hopkins University and Hospital. Dr. Sidransky has written over 400 peer-reviewed publications, and has contributed to more than 50 cancer reviews and chapters. Dr. Sidransky is a founder of a number of biotechnology companies and holds numerous biotechnology patents. He has been the recipient of many awards and honors, including the 1997 Sarstedt International prize from the German Society of Clinical Chemistry, 1998 Alton Ochsner Award Relating Smoking and Health by the American College of Chest Physicians and the 2004 Hinda Rosenthal Award presented by the American Association of Cancer Research. Dr. Sidransky has served as Vice Chairman of the Board of Directors, and presently is a director of ImClone. He serves on the board of directors of KV Pharmaceutical Co., Champions Biotechnology, Inc. and Morria Biopharmaceuticals Plc. and is Chairman of Tamir Biotechnology, Inc. (also known as Alfacell Corp.). He is serving and has served on scientific advisory boards of corporations and institutions, including Amgen, MedImmune, Roche and Veridex, LLC (a Johnson & Johnson diagnostic company), among others. In Addition, Dr. Sidransky served as Director of American Association for Cancer Research from 2005 to 2008. Dr. Sidransky received his B.A. from Brandeis University and his M.D. from the Baylor College of Medicine.

*Joshua Rosensweig* has served as a member of our board of directors since May 2004. Since November 2010, he has served as a member of the board of directors of *Bezeq Israel Telecommunication Corp. Ltd.* (Israel's leading communications group) and of *Alrov Real Estate and Hotels Ltd.*, a publicly-traded property development company. From September 2003 to September 2006, Dr. Rosensweig served as the Chairman of the Board of Directors of the First International Bank of Israel. From 1998 to July 2005, Dr. Rosensweig was a senior partner at Gornitzky and Co., a law firm where he specialized in international transactions and taxation. Dr. Rosensweig lectured at Bar-Ilan University, Law School from 1980 to 1995 and at Tel Aviv University, School of Business from 1983 to 1995. Dr. Rosensweig received his J.S.D. (International Taxation), and LL.M. (Taxation) from New York University Law School.

*Gerald Dogon* has served as a member of our board of directors since February 2007. From December 2004 to December 2006, Mr. Dogon served as a director and a member of the audit, investment and nomination committees of Scailex Corporation (previously Scitex Corporation). From October 2005 until it was acquired by PMC-Sierra, Inc. in May 2006, he served as a member of the board

of directors of Passave, Inc., a semiconductor company. From 1999 to 2000, he served as a director and as chairman of the audit committee of Nogatech, Inc. Mr. Dogon has also served as a member of the board of directors of Fundtech Ltd. and was a member of its audit and nominating committees. From 1994 to 1998, Mr. Dogon served as Executive Vice President and Chief Financial Officer of DSPC Inc., and in addition, from November 1997 until December 1999, as a member of its board of directors. Mr. Dogon holds a B.A. in Economics from the University of Cape Town.

*Tali Yaron-Eldar* has served as a member of our board of directors since February 2007. Since March 2007, Ms. Yaron-Eldar has been a partner with the law firm of Tadmor & Co. From January 2004 to March 2007, she was a partner at the law firm of Cohen, Yaron-Eldar & Co. From January 2004 to January 2008, Ms. Yaron-Eldar served as the Chief Executive Officer of Arazim Investment Company. She has also served in a variety of public positions, including as the Chief Legal Advisor of the Customs and V.A.T department of the Finance Ministry of the State of Israel from 1998 to 2001 and as the Commissioner of Income Tax and Real Property Tax Authority of the State of Israel from 2002 to 2004. Ms. Yaron-Eldar holds an M.B.A. specializing in finance and an LL.M. from Tel Aviv University and is a member of the Israeli Bar Association.

***B. COMPENSATION***

***Executive Officers' Remuneration***

The aggregate direct compensation we paid to our corporate and executive officers as a group (six persons as of the year ended December 31, 2011) was approximately $694,000 of which approximately $63,000 was set aside or accrued to provide for pension, retirement, severance or similar benefits . These amounts do not include expenses we incurred for other payments, including dues for professional and business associations, business travel and other expenses, and other benefits commonly reimbursed or paid by companies in Israel.

In 2011, we paid bonuses to three of our executive officer in an aggregate amount of $183,000 for performance during 2010 and $86,000 for the year 2011. As of the filing of this Annual Report on Form 20-F, bonuses for 2011 in the amount of $85,000 had been paid to one executive officer. Other employee's bonuses had not yet been determined or awarded. During 2011, we granted to our executive officers:

- options to purchase an aggregate amount of 75,000 ordinary shares, at an exercise price of $1.08 per share with an expiration date of July 6, 2021, of which none were vested as of December 31, 2011;

- options to purchase 100,000 ordinary shares, at an exercise price of $0.45 per share with an expiration date of November 14, 2021, of which none were vested as of December 31, 2011; and

- options to purchase an aggregate amount 24,000 ordinary shares, at an exercise price of $0.27 per share with an expiration date of November 30, 2021, of which 12,000 were vested as of December 31, 2011.

In addition, in April 11, 2011, we re-priced the exercise price of an option to purchase 125,000 ordinary shares granted in 2009 to one executive officer, from an exercise price of $8.20 per share to an exercise price of $1.96 per share.

***Directors' Remuneration***

Under the directors' compensation package approved by our board of directors and shareholders (at its meeting held on July 12, 2006), as of our initial public offering, (i) each member of the board of directors, apart from our former Chairman, Yoav Chelouche, is entitled to receive an annual fee of $10,000, payable in equal quarterly installments (ii) each member of our board of directors, other than the external directors, who serve on board committees receives an additional annual fee of $10,000, payable in equal quarterly installments. In addition, On May 26, 2011, the Company's board of directors approved, subject to shareholders' approval which occurred on July 6, 2011, to grant to the new Chairman, Mr. Brian Markison, options to purchase up to 75,000 ordinary shares, at an exercise price of $1.08 per share, vesting over a period of 3 years, with an expiration date of July 6, 2021.

At the annual shareholders meeting held on December 22, 2009, our shareholders resolved to amend our agreement with Mr. Chelouche pursuant to which he serves as Chairman of our board of directors, to denominate Mr. Chelouche's monthly compensation in new Israeli Shekels, and to set the amount at NIS 32,600, (which is equal to $7,000 times 4.66, which was the NIS/dollar exchange rate on July 12, 2006, the day of the initial shareholder approval of the chairmanship agreement). Mr. Chelouche resigned from the board in April 2011, and received a total of $69,000 in 2011.

The Companies Law and the regulations promulgated pursuant thereto governing the terms of compensation payable to external directors require that external directors receive annual payment as well as payment for participation in meetings as set forth in the regulations, and further provides that such remuneration may generally be determined relative to that of "other directors" (as such term is defined in the Companies Law). Due to a clerical error, the above-mentioned company approval excluded external directors from receiving the participation fee, which should have been identical to the compensation payable to the other directors. In compliance

with the Companies Law and the regulations promulgated thereunder, our audit committee, our board of directors and our shareholders (at its meeting held on July 14, 2010) resolved to (i) ratify and approve the payments made by us to the external directors over the three years prior to such meeting as participation remuneration in an amount of $10,000 annually and (ii) amend the remuneration and benefits of the external directors so that each external director shall be entitled to an annual fee of NIS 40,000 and to an additional participation fee of NIS 2,800 per meeting. According to the Companies Law, an external director shall be entitled to 60% of the participation fee in the event that such external director participates in a meeting by means of communication and to 50% of the participation fee in the event a resolution is adopted by the board of directors or a board committee on which such external director serves as a member, without a meeting.

In addition, it was resolved that, in the event that during their term as external directors we increase the remuneration payable, whether by way of annual compensation or on a per meeting basis, to any "other directors", each external director will be entitled, to receive additional remuneration, if necessary, so that his or her annual compensation and/or compensation for participation in meetings, as the case may be, will be equivalent to the average compensation payable to such "other directors" as annual compensation or as compensation for participation in meetings, respectively.

We paid an aggregate of $87,000 in direct compensation to our directors other than our former Chairman, Yoav Chelouche, for their services as directors for the year ended December 31, 2011.

As of December 31, 2011, there were outstanding options to purchase 475,186 ordinary shares that were granted to our nine directors and officers, at a weighted average exercise price of $4.35 per share.

### *C. BOARD PRACTICES*

We are incorporated in Israel, and, therefore, subject to various corporate governance practices under Israeli law relating to such matters as external directors, independent directors, the audit committee, independent auditor and the internal auditor. These matters are in addition to the requirements of The NASDAQ Capital Market and other relevant provisions of U.S. securities laws. Under The NASDAQ Capital Market rules, a foreign private issuer may generally follow its home country rules of corporate governance in lieu of the comparable NASDAQ Capital Market requirements, except for certain matters such as composition and responsibilities of the audit committee and the independence of its members. For U.S. domestic companies, NASDAQ Capital Market rules specify that the board of directors must contain a majority of independent directors within 12 months of its initial public offering. We currently comply with this requirement as well as the committee composition and responsibility requirements with respect to our committees. In addition, under the Companies Law, we are required to appoint at least two external directors. Gerald Dogon and Tali Yaron-Eldar were appointed as our external directors, each of whom is also independent under the rules of The NASDAQ Capital Market. Mr. Dogon and Ms. Yaron-Eldar were re-elected as external directors by a general meeting on July 14, 2010, and their current terms expire on July 13, 2013.

**Board of Directors**

Our board of directors currently consists of five directors, including two external directors. Our directors, apart from the external directors, are elected at an annual meeting or an extraordinary meeting, as stated in our Articles of Association (the "Articles") by a vote of the holders of a majority of the voting power represented at a meeting of our shareholders and voting on the election of directors. The Articles provide that we may have no less than two and no more than 11 directors.

In accordance with our Articles, our board of directors, apart from our external directors, is divided into three classes of directors, with one class being elected each year for a term of approximately three years. At each annual general meeting of shareholders, the successors to directors whose term then expires will be elected to serve from the time of election and qualification until the third annual meeting of shareholders following election. Our directors are divided among the three classes as follows:

- the Class I director is Brian A. Markison, and his term expires at the annual general meeting of shareholders to be held in 2014;

- the Class II directors are Dr. David Sidransky and Dr. Joshua Rosensweig, and their terms expire at the annual general meeting of shareholders to be held in 2012; and

- the Class II directors are Dr. David Sidransky and Dr. Joshua Rosensweig, and their terms expire at the annual general meeting of shareholders to be held in 2012; and

In accordance with our Articles, the approval of at least 75% of the voting rights represented at a general meeting is generally required to remove any of our directors from office, elect directors in their stead or fill any vacancy created in our board of directors. In addition, vacancies on the board of directors may generally be filled by a vote of a majority of the directors then in office. Our board of directors may also appoint additional directors up to the maximum number permitted under our Articles. See "— External Directors" below for a description of the procedure for election of external directors.

In addition, our two external directors, Gerald Dogon and Tali Yaron-Eldar, were re-elected on July 14, 2010 for three-year terms, and their current terms expire on July 13, 2013. See "— External Directors" below.

Any additional directorships resulting from an increase in the number of directors will be distributed among the three classes so that, as nearly as possible, each class will consist of one-third of the directors.

Our Articles provide, as allowed by Israeli law, that any director may, by written notice to us, appoint another person to serve as an alternate director (subject to the consent of the board of directors) and may cancel such appointment. Unless the appointing director

limits such appointment to a specified period of time or restricts it to a specified meeting or action of the board of directors, or otherwise restricts its scope, the appointment shall be for all purposes and for a period of time concurrent with the term of the appointing director. Currently, no alternate directors have been appointed. The Companies Law stipulates that a person not qualified to be appointed as a director, shall not be appointed and shall not serve as alternate director. In addition, a person who serves as a director shall not be appointed and shall not serve as an alternate director except under very limited circumstances, which are not relevant to our company. An alternate director has the same responsibilities as a director. Under the Companies Law, external directors cannot generally appoint alternate directors and a person who is not qualified to be appointed as an independent director may not be appointed as an alternate to an independent director.

**External Directors**

***Qualifications of External Directors***

Companies incorporated under the laws of the State of Israel whose shares are listed on a stock exchange, including The NASDAQ Capital Market, are required to appoint at least two natural persons as "external directors". We have appointed Gerald Dogon and Tali Yaron-Eldar, who qualify as external directors under the Companies Law. Our external directors were re-elected on July 14, 2010. The Companies Law provides that no person may be appointed as an external director if such person is a controlling shareholder or a relative of a controlling shareholder, or if such person, a relative, partner or employer of such person, or anyone to whom such person is directly or indirectly subordinate, or any entity under such person's control, has or had, on or within the two years preceding the date of such person's appointment to serve as an external director, any affiliation with the company to whose board such external director is proposed to be appointed or any other entity (which its controlling shareholder, on or within the two years preceding the date of such person's appointment, is the said company or which its controlling shareholder),, with any controlling shareholder of the company, with a relative of such controlling shareholder, at the date of appointment, or with any entity controlled by the company or by a controlling shareholder of the company, or, if the company has no controlling shareholder or a shareholder holding 25% or more of the company's voting rights, any affiliation, at the time of the appointment, to the chairman of the board of directors, the chief executive officer, the most senior financial officer of the company, or to a shareholder holding 5% or more of the outstanding shares or voting rights of the company.

The term "affiliation" includes:

- an employment relationship;
- a business or professional relationship maintained on a regular basis;
- control; as well as
- service as an office holder, excluding service as a director in a private company prior to the first offering of its shares to the public if such director was appointed as a director of the private company in order to serve as an external director following the public offering.

The term "office holder" is defined in the Companies Law as a managing director, chief executive officer, executive vice president, vice president, any other person fulfilling or assuming any of the foregoing positions without regard to such person's title, as well as a director, or a manager directly subordinate to the managing director.

In addition, no person may serve as an external director if: (a) the person's position or other business activities create, or may create, a conflict of interest with the person's duties as a director or may interfere with the person's ability to serve as an external director; (b) at the time such person serves as a non-external director of another company on whose board of directors a director of the reciprocal company serves as an external director; (c) the person is an employee of the Israel Securities Authority or of an Israeli stock exchange; (d) such person or such person's relative, partner, employer or anyone to whom such person is directly or indirectly subordinate, or any entity under such person's control, has business or professional relations with any person or entity he or she should not be affiliated with, as described above, even if such affiliation is not on a regular basis, unless such relations are negligible; or (e) such person received compensation, directly or indirectly, in connection with such person's services as an external director, other than as permitted under the Companies Law and the regulations promulgated thereunder. If, at the time of election of an external director, all other directors, who are not controlling shareholders of such company or their relatives, are of the same gender, the external director to be elected must be of the other gender.

Under the Companies Law, a person may only be appointed as an external director if he or she has professional qualifications or if he or she has accounting and financial expertise, provided that at least one of the external directors must have accounting and financial expertise. In addition, the board of directors of publicly traded companies, such as us, are required to make a determination as to the minimum number of directors who must have financial and accounting expertise in addition to the external director, based among other things, on the type and size of the company and the scope and complexity of its operations, and subject to the number of directors that may be appointed by the company as set forth in its articles of associations.

The conditions and criteria for possessing accounting and financial expertise or professional qualifications were determined in regulations promulgated by the Israeli Minister of Justice in consultation with the Israeli Securities Authority. The regulations

mandate that a person is deemed to have “expertise in finance and accounting” if his or her education, experience and qualifications provide him or her with expertise and understanding in business matters, accounting and financial statements, in a way that allows him or her to understand, in depth, the company’s financial statements and to encourage discussion about the manner in which the financial data is presented.

The company's board of directors must evaluate the proposed external director's expertise in finance and accounting, by considering, among other things, his or her education, experience and knowledge in the following: (i) accounting and auditing issues typical to the field in which the company operates and to companies of a size and complexity similar to such company; (ii) a company's external public accountant's duties and obligations; and (iii) preparing company financial statements and their approval in accordance with the Companies Law and the Israeli Securities Law.

A director is deemed to be "professionally qualified" if he or she meets any of the following criteria: (i) has an academic degree in any of the following professions: economics, business administration, accounting, law or public administration; (ii) has a different academic degree or has completed higher education in a field that is the company's main field of operations, or a field relevant to his or her position; or (iii) has at least five years experience in any of the following, or has a total of five years experience in at least two of the following: (A) a senior position in the business management of a corporation with significant operations, (B) a senior public position or a senior position in public service, or (C) a senior position in the company's main field of operations. The board of directors here too must evaluate the proposed external director's "professional qualification" in accordance with the criteria set forth above.

The board of directors has determined that other than one external director no other directors are required to have financial and accounting expertise. Our board of directors further determined that our external director, Mr. Dogon, possesses the requisite financial and accounting expertise and that both of our external directors possess the requisite professional qualifications.

Following termination of service as an external director, a public company, a controlling shareholder thereof and any entity controlled by a controlling shareholder, may not grant any benefit, directly or indirectly, to any person who served as an external director of such public company, or to his or her spouse or child, including, not appointing such person, or his or her spouse or child, as an office holder of such public company or of an entity controlled by a controlling shareholder of such public company, not employing such person and not receiving professional services for pay from such person, either directly or indirectly, including through a corporation controlled by such person, or his or her relative, all until the lapse of two years from termination of office with respect to the external director, his or her spouse or child and until the lapse of one year from termination of office with respect to other relatives besides spouse or child of the former external director.

***Election of External Directors***

External directors are elected at the general meeting of shareholders by a simple majority, provided that:

- the majority includes at least a majority of the shares of shareholders who are not controlling shareholders and who do not have a personal interest in the matter (other than a personal interest which is not the result of an affiliation with a controlling shareholder), who are present and voted on the matter of the election of the external director (disregarding abstentions); or

- the non-controlling shareholders or shareholders that do not have a personal interest in the matter (other than a personal interest which is not the result of an affiliation with a controlling shareholder), who are present and voted against the election of the external director hold two percent or less of the voting power of the company.

External directors are elected for a term of three years and may be re-elected to two additional terms of three years each, provided that with respect to the appointment for each such additional three-year term, one of the following has occurred: (a) the reappointment of the external director has been proposed by one or more shareholders holding together one percent or more of the aggregate voting rights in the company and the appointment was approved at the general meeting of the shareholders by a simple majority, provided that: (i) in calculating the majority, votes of controlling shareholders or shareholders having a personal interest in the appointment (other than a personal interest which is not the result of an affiliation with a controlling shareholder) and abstentions are disregarded, and (ii) the total number of shares of shareholders who do not have a personal interest in the appointment (other than a personal interest which is not the result of an affiliation with a controlling shareholder) and/or who are not controlling shareholders, present and voting in favor of the appointment exceed two percent of the aggregate voting rights in the company; or (b) the reappointment of the external director has been proposed by the board of directors and the appointment was approved by the majority required for the initial appointment of an external director.

However, under regulations promulgated pursuant to the Companies Law, companies whose shares are listed for trading on specified exchanges outside of Israel, including the NASDAQ Global Market and the NASDAQ Global Select Market, but not including The NASDAQ Capital Market, may elect external directors for additional terms that do not exceed three years each, beyond the three three-year terms generally applicable, provided that, if an external director is being re-elected for an additional term or terms beyond

three three-year terms: (i) the audit committee and board of directors must determine that, in light of the external director's expertise and special contribution to the board of directors and its committees, the reelection for an additional term is to the company's benefit; (ii) the external director must be re-elected by the required majority of shareholders and subject to the terms specified in the Companies Law; and (iii) the term during which the nominee has served as an external director and the reasons given by the audit committee and board of directors for extending his or her term of office must be presented to the shareholders at the shareholder's meeting prior to their approval.

An external director cannot be removed from office unless: (i) the board of directors determines that the external director no longer meets the statutory requirements for holding the office, or that the external director is in breach of his or her duty of loyalty to the company, and the shareholders vote, by the same majority of shareholders as is required for his or her appointment, to remove the external director after the external director has been given the opportunity to present his or her position; (ii) a court determines, upon a request of a director or a shareholder, that the external director ceases to meet the statutory requirements for his or her appointment or that the external director is in breach of his or her fiduciary duties to the company; or (iii) a court determines, upon a request of the company or a director, shareholder or creditor of the company, that the external director is unable to fulfill his or her duty, or has been convicted of specified crimes. If an external directorship becomes vacant and the number of external directors serving in the company is less than two, then a company's board of directors is required under the Companies Law to call a shareholders' meeting immediately to appoint a new external director.

Each committee of a company's board of directors that has the right to exercise a power delegated by the board of directors cannot include any person who is not a director, and is required to include at least one external director. The audit committee must consist of at least three members, is required to include all of the external directors, and most of its members must be independent directors, as defined below.

In a 2008 amendment, the Companies Law introduced the concept of 'independent' directors in addition to external directors. This concept was reinforced in the recent amendment to the Companies Law (the "2011 Amendment"). An independent director is either an external director or a director appointed or classified as such who meets the same non-affiliation criteria as an external director, as determined by the subject company's audit committee, and who has not served as a director of the company for more than nine consecutive years. For these purposes, ceasing to serve as a director for a period of two years or less would not be deemed to sever the consecutive nature of such director's service. An independent director may be removed from office in the same manner that an external director may be removed.

Pursuant to the Companies Law, a public company, such as us, may include in its articles of association a provision providing that a specified number of its directors be independent directors or may adopt a standard provision providing that a majority of its directors be independent directors or, if there is a controlling shareholder or a 25% or more shareholder, that at least one-third of its directors be independent directors.

Regulations promulgated pursuant to the Companies Law provide that a director in a company whose shares are listed for trading on specified exchanges outside of Israel, including the NASDAQ Global Market and the NASDAQ Global Select Market, but not including The NASDAQ Capital Market, who qualifies as an independent director under the relevant non-Israeli rules relating to independence standards for audit committee membership and who meets certain non-affiliation criteria, which are less stringent than those applicable to external directors, would be deemed an "independent" director pursuant to the Companies Law provided he or she has not served as a director for more than nine consecutive years. For these purposes, ceasing to serve as a director for a period of two years or less would not be deemed to sever the consecutive nature of such director's service. Furthermore, pursuant to these regulations, such company may re-appoint a person as an independent director for additional terms, beyond nine years, which do not exceed three years each, if the audit committee and the board of directors determine that in light of the independent director's expertise and special contribution to the board of directors and its committees, the re-appointment for an additional term is to the company's benefit.

Although the Company has not included such a provision in its Articles, it believes that Brian A. Markison, Joshua Rosensweig, Gerald Dogon and Tali Yaron-Eldar could qualify as independent directors under the Companies Law. In addition, the Company believes that Brian A. Markison, Joshua Rosensweig, Gerald Dogon, Tali Yaron-Eldar and David Sidransky qualify as ''independent directors'' as defined by The NASDAQ Stock Market.

An external director is entitled to compensation only as provided in regulations adopted under the Companies Law and is otherwise prohibited from receiving any other compensation, directly or indirectly, in connection with services provided as an external director. For this matter, the term "compensation" shall not include the grant of an exemption, an undertaking to indemnify, indemnification or insurance.

**Board Committees**

Our board of directors has established an audit committee, a compensation committee and a nominating and governance committee.

***Audit Committee***

Under the listing requirements of The NASDAQ Capital Market, a foreign private issuer is required to maintain an audit committee that operates under a formal written charter and has certain responsibilities and authority, including being directly responsible for the appointment, compensation, retention and oversight of the work of the issuer's independent auditors. The members of the audit committee are required to meet the independence requirements established by the SEC in accordance with the requirements of the Sarbanes-Oxley Act. The rules of The NASDAQ Capital Market also require that at least one member of the audit committee be a financial expert. Our audit committee is comprised of three members and meets the listing requirements of The NASDAQ Capital Market and the SEC.

The Companies Law requires public companies to appoint an audit committee comprised of at least three directors, including all of the external directors, and further stipulates that the chairman of the board of directors, any director employed by or providing other

services to a company on an ongoing basis, and a controlling shareholder or any relative of a controlling shareholder may not be members of the audit committee.

Pursuant to the 2011 Amendment, effective as of September 15, 2011, the majority of the members of the audit committee must be independent directors under the Companies Law. Additionally, as of September 15, 2011, the following may not be members of the audit committee: (a) a director employed by or providing services on an ongoing basis to a controlling shareholder or an entity controlled by a controlling shareholder; and (b) a director whose livelihood depends on a controlling shareholder. The 2011 Amendment further requires that as of September 15, 2011; (i) the chairperson of the audit committee be an external director; (ii) generally, any person who is not entitled to be a member of the audit committee may not attend the audit committees meetings; and (iii) the quorum required for the convening of meetings of the audit committee and for adopting resolutions by the audit committee be a majority of the members of the audit committee provided that the majority of the members present are independent directors and at least one of them is an external director.

Our audit committee provides assistance to the board of directors in fulfilling its responsibility to our shareholders relating to our accounting, financial reporting practices, and the quality and integrity of our financial reports. The audit committee also oversees consultants and experts providing the company with consulting services concerning risk management and internal control structure, pre-approves the services performed by our independent auditors and oversees that management has established and maintains processes to assure compliance by the Company with all applicable laws, regulations and corporate policies. The audit committee also oversees and ensures the independence of our independent auditors.

The responsibilities of the audit committee under the Companies Law include: (a) identifying flaws in the management of a company's business, including by consulting with the internal auditor or with the independent auditor, and making recommendations to the board of directors as to how to correct them; (b) reviewing and deciding whether to approve certain related party transactions and certain actions involving conflicts of interest; (c) with respect to certain actions involving conflicts of interest and with respect to certain related party transactions, deciding whether such actions are material actions and whether such transactions are extraordinary transactions, respectively, all for the purpose of approving such actions or transactions; (d) reviewing the internal auditor's work program; (e) examining the company's internal control structure and processes, the performance of the internal auditor and whether the internal auditor has at his or her disposal the tools and resources required to perform his or her duties, considering, *inter alia*, the special needs of the company and its size; (f) examining the independent auditor's scope of work as well as the independent auditor's fees and to provide the corporate organ responsible for determining the independent auditor's fees with its recommendations; and (g) the audit committee will also be responsible for providing for arrangements as to the manner in which the Company will deal with employee complaints with respect to deficiencies in the administration of the Company's business and the protection to be provided to such employees.

Our written audit committee charter, a copy of which is available on the "Corporate Governance" section of our website, states that in fulfilling its role, the committee is entitled to meet with our management, our internal auditor and our independent auditor.

Mr. Gerald Dogon, Ms. Tali Yaron-Eldar and Dr. David Sidransky are the current members of our audit committee. Each of these persons is an 'independent director' in accordance with the NASDAQ listing standards and, except for Dr. Sidransky, qualifies as an independent director under the Companies Law.

***Compensation Committee***

Our compensation committee reviews and provides our board of directors with recommendations relating to compensation and benefits of our officers and key employees and assists the board of directors with establishing, overseeing and/or administering incentive compensation and equity based plans. The compensation committee reviews corporate goals and objectives set by our board that are relevant to compensation of the Chief Executive Officer, evaluates the performance of the Chief Executive Officer in light of those goals and objectives, and recommends to the board of directors the Chief Executive Officer's compensation based on such evaluations, subject to additional approvals, to the extent required pursuant to the Companies Law. The compensation committee also reviews and makes recommendations for approvals to the board of directors, subject to additional approvals, to the extent required pursuant to the Companies Law, with respect to the compensation of directors, executive officers other than the Chief Executive Officer and key employees. The compensation committee operates under a written compensation committee charter, a copy of which is available on the "Corporate Governance" section of our website. Under the Companies Law, the Compensation Committee may need to seek the approval of our audit committee, our board of directors and the shareholders for certain compensation decisions. Pursuant to Israeli law, a compensation committee that meets all of the requirements applicable to audit committees may approve, prior to approval by the board of directors, any arrangement between a company and an office holder who is not a director as to such office holders' terms of office and employment, including, a grant of exemption, indemnification and insurance, that otherwise would have required approval of the audit committee. The members of our compensation committee are Dr. David Sidransky, Tali Yaron Eldar and Gerald Dogon.

***Nominating and Governance Committee***

The nominating and governance committee is responsible for making recommendations to the board of directors regarding candidates for directorships and the composition of our board of directors and its committees as well as to evaluate and consider matters relating to the qualifications of directors. In addition, the nominating and governance committee is responsible for reviewing and reassessing our corporate governance guidelines and making recommendations to the board of directors concerning governance matters. The nominating and governance committee operates under a written charter, a copy of which is available on the "Corporate Governance" section of our website. The members of our nominating and governance committee are Brian Markison and Gerald Dogon. Our board of directors has determined that both members of our nominating and governance committee are independent under the applicable NASDAQ Capital Market rules.

Pursuant to our Articles, nominations for the election of directors may be made by the board of directors or a committee appointed by the board of directors or by any shareholder holding at least 1% of the outstanding voting power in the Company. However, any such shareholder may nominate one or more persons for election as directors at a general meeting only if a written notice of such shareholder's intent to make such nomination or nominations has been delivered to us as required under our Articles.

**Internal Auditor**

Under the Companies Law, the board of directors must appoint an internal auditor recommended by the audit committee. On May, 7, 2007, we appointed Yardeni Gelfend as our internal auditor. The role of the internal auditor is to examine, among other things, whether a company's actions comply with applicable law and orderly business procedure. Under the Companies Law, the internal auditor may not be an interested party or an office holder, or a relative of an interested party or an office holder, nor may the internal auditor be the company's independent auditor or anyone on his behalf. An interested party is defined in the Companies Law as a holder of 5% or more of the Company's outstanding shares or voting rights, any person or entity who has the right to designate one director or more or the chief executive officer of the company or any person who serves as a director or as a chief executive officer. The internal auditor's tenure cannot be terminated without his or her consent, nor can he or she be suspended from such position unless the board of directors has so resolved after hearing the opinion of the audit committee and after giving him or her the opportunity to present his or her case to the board and to the audit committee. On the 6$^{th}$ of October 2011, we informed the internal auditor to stay a portion of their audit plan for 2011. We are now in the process of formulating a work-plan for the internal auditors for the year of 2012.

**Approval of Specified Related Party Transactions Under Israeli Law**

See "Item 10 - Additional Information - B. Memorandum and Articles of Association — Fiduciary Duties of Office Holders", "– Disclosure of Personal Interests of an Office Holder" and "—Transactions Requiring Special Approval" for a discussion of the requirements of Israeli law regarding the fiduciary duties of the office holders of the company, including directors and executive officers, and their duties to disclose any personal interest that such person may have and all related material information known to him or her relating to any existing or proposed transaction by the company, as well as transactions that require special approval.

***D. EMPLOYEES***

As of December 31, 2011 we had 22 employees. As of December 31, 2010, we had 54 employees who worked a four-day work week. As of December 31, 2009, we had 72 full-time employees. Of the 22 employees as of December 31, 2011, 15 were engaged in research and development and in our CLIA lab activities and 7 were engaged in management, administration, business development, marketing and finance. 7 employees were located in the United States and 15 were located in Israel.

The Israeli labor laws govern the employment of employees located in Israel. These statutes cover a wide range of subjects and provide certain minimum employment standards including the length of the workday, minimum wage, hiring and dismissal procedures, determination of severance pay, annual leave, sick days and other terms of employment.

We contribute (usually following a trial period of three months) monthly amounts for the benefit and on behalf of all our employees located in Israel to a Managers Insurance plan and/or a Pension Plan. The severance pay liability of the company to its Israeli employees is based upon the number of years of employment and the latest monthly salary. Since our contributions to the Managers Insurance plan and/or the Pension Plan are made pursuant to section 14 of the Israeli Severance Pay Law (except with respect to two employees), our liability for severance pay is covered by our regular contributions to the Managers Insurance plan and the Pension Plan.

We have never experienced labor-related work stoppages and believe that our relations with our employees are good.

***E. SHARE OWNERSHIP***

The following table sets forth, as of March 1, 2012, the number of our ordinary shares beneficially owned by (i) each of our directors and corporate and executive officers and (ii) our current directors and corporate and executive officers as a group. The information in this table is based on 10,519,530 ordinary shares outstanding as of March 1, 2012. Beneficial ownership of shares is determined in accordance with the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power. Ordinary shares that are subject to convertible securities, warrants or options that are currently convertible or exercisable or convertible or exercisable within 60 days of March 1, 2012 are deemed to be outstanding and beneficially owned by the person holding the convertible securities, warrants or options for the purpose of computing the percentage ownership of that person, but are not treated as outstanding for the purpose of computing the percentage of any other person.

| **Name of Beneficial Owner** | **Number of Shares Beneficially Owned** | **Percentage of Outstanding Ordinary Shares** |
|---|---|---|
| Kenneth A. Berlin (1) | 207,917 | 1.94% |
| Ranit Aharonov, Ph.D. (2) | 31,529 | * |
| Oded Biran | 0 | * |
| Tomer Assis | 0 | * |
| Brian Markison (3) | 0 | - |
| Dr. David Sidransky (4) | 6,126 | * |
| Joshua Rosensweig (5) | 39,463 | * |
| Gerald Dogon (6) | 3,171 | * |
| Tali Yaron-Eldar (7) | 3,171 | * |
| Current directors and executive officers as a group (9 persons) (8) | 291,377 | 2.71% |

* Represents beneficial ownership of less than 1% of ordinary shares.

(1) Consists of (i) 16,250 ordinary shares, which were granted to Mr. Berlin upon the start of his employment with us, and (ii) options currently exercisable or exercisable within 60 days of March 1, 2012 to purchase 100,000 ordinary shares (which have an exercise price of $8.20 per share and expire in November 2019), and 91,667 ordinary shares (which have an exercise price of $1.96 per share and expire in November 2019). Does not include the following options that become exercisable after April 30, 2012: (i) options to purchase 25,001 shares (which have an exercise price of $8.20 per share and expire in November 2019) (ii) 33,334 ordinary shares (which have an exercise price of $1.96 per share and expire in November 2019) (iii) 100,000 ordinary shares (which have an exercise price of $0.45 per share and expire in November 2021).

(2) Consists of options currently exercisable or exercisable within 60 days of March 1, 2012 to purchase 4,648 ordinary shares (which have an exercise price of $13.99 per share and expire in January 2016), 7,381 ordinary shares (which have an exercise price of $16.64 per share and expire in June 2018), 7,500 ordinary shares (which have an exercise price of $5.60 per share and expire in October 2020) and 12,000 ordinary shares (which have an exercise price of $0.27 per share and expire in November 2021). Does not include the following options that become exercisable after April 30, 2012: options to purchase 494 ordinary shares (which have an exercise price of $16.64 per share and expire in June 2018).

(3) Does not include the following options that become exercisable after April 30, 2012: options to purchase 75,000 shares (which have an exercise price of $1.08 per share and expire in July 2021).

(4) Consists of options currently exercisable or exercisable within 60 days of March 1, 2012 to purchase 3,750 ordinary shares (which have an exercise price of $22.80 per share and expire in January 2018) and 2,376 ordinary shares (which have an exercise price of $6.60 per share and expire in December 2019). Does not include the following options that become exercisable after April 30, 2012: options to purchase 795 shares (which have an exercise price of $6.6 per share and expire in December 2019).

(5) Consists of (i) 34,565 ordinary shares held by Dr. Rosensweig and (ii) options currently exercisable or exercisable within 60 days of March 1, 2012 to purchase 1,727 ordinary shares (which have an exercise price of $13.99 per share and expire in July 2016) and 3,171 ordinary shares (which have an exercise price of $24.58 per share and expire in July 2016).

(6) Consists of options currently exercisable or exercisable within 60 days of March 1, 2012 to purchase 3,171 ordinary shares (which have an exercise price of $35.20 per share and expire in March 2017).

(7) Consists of options currently exercisable or exercisable within 60 days of March 1, 2012 to purchase 3,171 ordinary shares (which have an exercise price of $35.20 per share and expire in March 2017).

(8) See notes 1 through 7 above.

**Employee Benefit Plans**

***2003 Israeli Share Option Plan***

In March 2003, we adopted the Rosetta Genomics Ltd. 2003 Israeli Share Option Plan, or the 2003 Plan. The 2003 Plan provided for the grant of options to our directors, employees, consultants and service providers, and to the directors, employees, consultants and service providers of our subsidiaries and affiliates. Upon shareholder approval of the 2006 Global Share Incentive Plan, or 2006 Plan, in July 2006, the 2003 Plan was terminated and the 80,443 ordinary shares that were available for issuance under the 2003 Plan were transferred to the 2006 Plan. However, all outstanding options granted under the 2003 Plan remain outstanding and subject to the terms of the 2003 Plan. Any options that were granted under the 2003 plan and that are canceled are transferred to the 2006 Plan. As of March 1, 2012, options to purchase 27,631 ordinary shares have been granted and are still outstanding under the 2003 Plan and 93,064 shares have been issued pursuant to the exercise of options granted under the 2003 Plan.

***2006 Global Share Incentive Plan***

The 2006 Global Share Incentive Plan, or the 2006 Plan, was approved in July 2006. In November 2007, our board of directors approved an additional 125,000 shares under the 2006 Plan. In December 2009, our shareholders approved an additional 375,000 shares under the 2006 plan. As of March 1, 2012, there were 160,500 shares available for grant under the 2006 Plan, 21,791 shares have been issued pursuant to the exercise of options granted under the 2006 Plan and options to purchase 551,721 ordinary shares have been granted and are outstanding under the 2006 Plan. The 2006 Plan, and its appendices for grantees subject to U.S. taxation and grantees subject to Israeli taxation, provides for the grant of options to our directors, employees, consultants and office holders and those of our subsidiaries and affiliates.

***Administration of Our Employee Benefit Plans***

Our employee benefit plans are administered by our compensation committee, which makes recommendations to our board of directors regarding the grant of options and the terms of the grant, including, exercise price, method of payment, vesting schedule, acceleration of vesting and the other matters necessary in the administration of these plans. Options granted under the 2003 Plan and the 2006 Plan to eligible employees and office holders who are Israeli residents may be granted under Section 102(b)(2) of the Israel Income Tax Ordinance pursuant to which the options or the ordinary shares issued upon their exercise must be allocated or issued to a trustee and be held in trust for a minimum requisite period, which is currently two years from the date of grant. Under Section 102, any tax payable by an employee from the grant or exercise of the options is deferred until the transfer of the options or ordinary shares by the trustee to the employee or upon the sale of the options or ordinary shares and gains are generally subject to a capital gains tax of 25%, provided , however, that in accordance with Section 102(b)(3) of the Israel Income Tax Ordinance, if the exercise price of the options is lower than the average closing price of the shares in the 30 trading days preceding the grant, the difference between such average closing price and the exercise is taxed as ordinary employment income rates.

Options to be granted under the 2006 Plan to U.S. residents may qualify as incentive stock options within the meaning of Section 422 of the Code. The exercise price for incentive stock options must not be less than the fair market value on the date the option is granted, unless otherwise approved by our board of directors and shareholders, or 110% of the fair market value if the optionholder holds more than 10% of our share capital.

Options granted under our employee benefit plans generally vest over three or four years, and they generally expire ten years from the date of grant. If we terminate the employment or engagement of a participant under the 2006 Plan for cause, all of such participant's vested and unvested options expire immediately upon the date of such termination for cause unless specified otherwise in the award agreement. Upon termination of employment for any other reason, including due to death or disability of the participant, vested options may be exercised within three months of the date of termination, unless otherwise determined in the award agreement. Vested options not exercised within the prescribed period and options which have expired prior to vesting are available for future grants under the 2006 plan.

In the event of a change of control, or merger, consolidation, reorganization or similar transaction resulting in the acquisition of at least 50% of our voting power, or the sale of all or substantially all of our shares or assets, the options will be assumed or substituted by the acquiring entity, or if the if the acquiring party does not provide for such assumption or substitution, then the options shall be subject to acceleration.

## ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

### *A. MAJOR SHAREHOLDERS*

The following table sets forth, as of March 1, 2012, the number of ordinary shares beneficially owned by each person or entity known by us to be the beneficial owner of more than 5% of our outstanding ordinary shares. The information in this table is based on 10,519,530 ordinary shares outstanding as of March 1, 2012. Beneficial ownership of shares is determined in accordance with the rules of the SEC and generally includes any shares over which a person exercises sole or shared voting or investment power. Ordinary shares that are subject to convertible securities, warrants or options that are presently convertible or exercisable or convertible or exercisable within 60 days of March 1, 2012 are deemed to be outstanding and beneficially owned by the person holding the convertible securities, warrants or options for the purpose of computing the percentage ownership of that person, but are not treated as outstanding for the purpose of computing the percentage of any other person. None of the persons or entities that we know beneficially owns more than 5% of our outstanding ordinary shares, has different voting rights. Except as indicated in the footnotes to this table, each shareholder in the table has sole voting and investment power for the shares shown as beneficially owned by them.

| Name and Address of Beneficial Owner | Number of Shares Beneficially Owned | Percentage of Outstanding Ordinary Shares |
|---|---|---|
| Perkins Capital Management, Inc.(1) | 1,056,375 | 9.3% |

(1) Based solely on a Schedule 13G filed by Perkins Capital Management, Inc. with the SEC on February 8, 2012. Consists of 189,875 ordinary shares and warrants to purchase up to 866,500 ordinary shares. Perkins has sole voting power with respect to 121,125 of the shares and sole dispositive power with respect to all 1,056,375 shares. Perkins' address is 730 East Lake Street, Wayzata, MN 55391.

Our ordinary shares are traded on the NASDAQ Capital Market in the United States. A significant portion of our shares are held in street name, therefore we generally have no way of determining who our shareholders are, their geographical location or how many shares a particular shareholder owns.

***Significant Changes in Share Ownership***

The following table shows changes over the last three years in the percentage ownership by major shareholders:

| Name of Beneficial Owner | Percentage of Outstanding Ordinary Shares Owned as of March 1, 2010 | Percentage of Outstanding Ordinary Shares Owned as of March 1, 2011 | Percentage of Outstanding Ordinary Shares Owned as of March 1, 2012 |
|---|---|---|---|
| Isaac Bentwich, M.D. | 9.3% | 4.9% | 3.1% |
| Prometheus Laboratories Inc. (1) | 11.9% | 6.3% | - |
| Far West Capital Management (2) | 9.8% | - | - |
| Becker Drapkin Management (3) | - | 9.7% | 2.9% |
| Perkins Capital Management, Inc. (4) | - | - | 9.3% |

* Less than one percent.

(1) Percentage of outstanding shares owned as of March 1, 2010 is based solely on a Schedule 13G filed with the SEC on May 4, 2009. Percentage of outstanding shares owned as of March 1, 2011 is based solely on a Schedule 13G filed with the SEC on February 14, 2011.

(2) Percentage of outstanding shares owned as of March 1, 2010 consists of (i) 1,343,014 ordinary shares reported as beneficially owned as of December 31, 2009 in a Schedule 13G filed by Far West Capital Management with the SEC on February 10, 2010 and (ii) 294,116 ordinary shares purchased in the 2010 registered direct offering.

(3) Percentage of outstanding shares owned as of March 1, 2011 is based solely on a Schedule 13G filed with the SEC on February 24, 2011. Percentage of outstanding shares owned as of March 1, 2012 is based solely on a Schedule 13G filed with the SEC on February 10, 2012.

(4) Percentage of outstanding shares owned as of March 1, 2012 is based solely on a Schedule 13G filed with the SEC on February 8, 2012.

***Control of Registrant***

To our knowledge, we are not directly or indirectly owned or controlled by another corporation, by any foreign government, or by any other natural or legal person. As of March 1, 2012, our officers and directors as a group beneficially owned 291,377 ordinary shares, or 2.71% of the then outstanding ordinary shares.

***B. RELATED PARTY TRANSACTIONS***

We have, from time to time, entered into agreements with our shareholders and affiliates. We describe these related party transactions entered into since January 1, 2011 below:

**Exclusive Testing and Administrative Services Agreement with Teva Pharmaceutical Industries Ltd.**

On December 24, 2008, we entered into an Exclusive Testing and Administrative Services Agreement with Teva Pharmaceutical Industries Ltd., as amended on January 17, 2011, pursuant to which Teva has the non-exclusive right to distribute our current diagnostic tests in Turkey and Israel. Prof. Moshe Many, M.D., Ph.D., a former director who resigned in May 2011, is the vice chairman of Teva Pharmaceutical Industries board of directors and has served as Chairman of the Research and Development Committee of Teva's board of directors since 1991. In 2011, we received $40,000 under this agreement.

**Exculpation, Indemnification and Insurance**

Our Articles permit us to exculpate, indemnify and insure our directors and officers to the fullest extent permitted by the Companies Law. An undertaking provided in advance by an Israeli company to indemnify an office holder with respect to a financial liability imposed on or incurred by him or her in favor of another person pursuant to a judgment, settlement or arbitrator's award approved by a court must be limited to events which in the opinion of the board of directors can be foreseen based on the company's activities when the undertaking to indemnify is given, and to an amount or according to criteria determined by the board of directors as reasonable under the circumstances, and such undertaking shall detail the abovementioned events and amount or criteria. In addition, a company may indemnify an office holder against the following liabilities incurred for acts performed as an office holder:

- reasonable litigation expenses, including attorneys' fees, incurred by the office holder as a result of an investigation or proceeding instituted against him or her by an authority authorized to conduct such investigation or proceeding, provided that (i) no indictment was filed against such office holder as a result of such investigation or proceeding; and (ii) either (A) no financial liability was imposed upon him or her as a substitute for the criminal proceeding as a result of such investigation or proceeding or, (B) if such financial liability was imposed, it was imposed with respect to an offense that does not require proof of criminal intent or with respect to monetary sanction; and

- reasonable litigation expenses, including attorneys' fees, incurred by the office holder or imposed by a court in proceedings instituted against him or her by the company, on its behalf or by a third party or in connection with criminal proceedings in which the office holder was acquitted or as a result of a conviction for a crime that does not require proof of criminal intent.

An Israeli company may insure an office holder against the following liabilities incurred for acts performed as an office holder:

- a breach of duty of loyalty to the company, to the extent that the office holder acted in good faith and had a reasonable basis to believe that the act would not prejudice the company;

- a breach of duty of care to the company or to a third party; and

- a financial liability imposed on the office holder in favor of a third party.

An Israeli company may not indemnify or insure an office holder against any of the following:

- a breach of duty of loyalty, except to the extent that the office holder acted in good faith and had a reasonable basis to believe that the act would not prejudice the company;

- a breach of duty of care committed intentionally or recklessly, excluding a breach arising out of the negligent conduct of the office holder;

- an act or omission committed with intent to derive illegal personal benefit; or

- a fine levied against the office holder.

Under the Companies Law, exculpation, indemnification and insurance of office holders must be approved by our audit committee and our board of directors and, in respect of our directors, by our shareholders.

Our directors and officers are currently covered by a directors' and officers' liability policy and our General Counsel is currently covered by a legal professional liability policy. We have also resolved to provide directors and certain other office holders with indemnification from any liability for damages caused as a result of a breach of duty of care and to provide such directors and other office holders with an exemption, to the fullest extent permitted by law, all in accordance with and pursuant to the terms set forth in our standard indemnification undertaking.

***C. INTERESTS OF EXPERTS AND COUNSEL***

Not applicable.

## ITEM 8. FINANCIAL INFORMATION

### *A. CONSOLIDATED STATEMENTS AND OTHER FINANCIAL INFORMATION*

**Consolidated Financial Statements**

Our consolidated financial statements and related notes are included in this Annual Report beginning on page F-1. See also Item 18.

**Legal Proceedings**

On April 10, 2009, we entered into a license and collaboration agreement (the "License Agreement") with Prometheus Laboratories Inc., under which we agreed to exclusively license and sublicense to Prometheus certain rights related to our microRNA-based cancer diagnostic tests. We also agreed to collaborate with Prometheus in order to further develop the cancer diagnostic tests and to develop two new microRNA-based gastroenterology tests. On May 10, 2010, Prometheus initiated arbitration proceedings under the License Agreement in the International Court of Arbitration to resolve a dispute relating to the scope and funding of the development plan for the development program set forth in the License Agreement. On June 28, 2010, we responded to Prometheus' arbitration demand and filed counterclaims in the arbitration proceeding. On November 22, 2010, we and Prometheus entered into a Settlement Agreement and Mutual Release (the "Settlement Agreement") to resolve the various disputes between the parties relating to the License Agreement, the Laboratory Services Agreement, dated April 10, 2009 (the "Services Agreement"), and the Stock Purchase Agreement, dated April 10, 2009 (the "Stock Purchase Agreement"), including all claims relating to the arbitration proceeding. The material terms of the Settlement Agreement are as follows:

- The License Agreement and all licenses and commercialization rights granted thereunder, were terminated with the exception of the following sections, which survived termination: Sections 4.8 (Withholding Taxes), 6.1 (Confidentiality), 8 (Indemnification), 10 (Limitation of Liability), 11.2 (Arbitration – which has been amended to delete the reference to Section 11.1), 11.4 (Governing Law), 12.6 (Relationship of the Parties), 12.7 (Injunctive Relief), and 12.8 (Notices).

- The Services Agreement was terminated with the exception of the following sections, which survived termination: 4.2 (Records), 6 (Privacy; Confidentiality), 9 (Indemnities), 10 (Ownership), 11 (Insurance), 13 (Exclusions of Liability; Dispute Resolution), 14.1 (Notices), 14.2 (Independent Contractors), 14.3 (Assignment; Headings), and 14.8 (Governing Law; Counterparts).

- The Purchase Agreement was amended as follows: (a) Prometheus' rights under Sections 5.1 (Information and Inspection Rights), 5.2 (Pre-Emptive Rights), 5.3 (Board Observer Rights) and 5.10 (Tax Matters) have been terminated; and (b) the reference in Section 7.1(d)(i)(A) to "the second anniversary of the Closing Date" was changed to "May 1, 2012."

- In consideration of the termination of the licenses and the return of the commercialization rights under the License Agreement, we agreed to pay Prometheus $3.1 million as follows: (a) $1.2 million to be paid on December 2, 2010, (b) $500,000 to be paid on or before February 28, 2011, (c) $650,000 to be paid on or before November 22, 2011, and (d) $750,000 to be paid on or before May 22, 2012. Rosetta granted Prometheus a non-interest bearing note with respect to the $500,000 payment due on or before February 28, 2011 and a note bearing interest at 12% per year with respect to the $650,000 payment due on or before November, 22, 2011 and the $750,000 payment due on or before May 22, 2012. We paid the $1.2 million payment due December 2, 2010 and the $500,000 payment due on or before February 2011 in a timely manner. However, we defaulted on the $650,000 payment due on November 22, 2011, but cured the default by paying $650,000 principal payment, plus accrued and unpaid interest within five business days of November 22, 2011. See also "Item 13. Defaults, Dividend Arrearages and Delinquencies."

- Each of the parties agreed to mutually release and discharge all claims which were made or could have been made in the arbitration proceeding, under the License Agreement, the Services Agreement and the Purchase Agreement, up to the date of the Settlement Agreement, and have dismissed the arbitration with prejudice.

See also Note 9.m to our consolidated financial statements beginning on page F-1.

**Dividend Policy**

To date, we have not declared or paid cash dividends on any of our shares, and we have no current intention of paying any cash dividends in the near future.

The Companies Law also restricts our ability to declare dividends. We can only distribute dividends from profits (as defined in the Companies Law), or, if we do not meet the profits test, with court approval provided in each case that there is no reasonable concern

that the dividend distribution will prevent the company from meeting its existing and foreseeable obligations as they come due. The payment of dividends may be subject to Israeli withholding taxes.

### *B. SIGNIFICANT CHANGES*

See “Note 14. Subsequent Events” to our consolidated financial statements included in this Annual Report beginning on page F-1 for a discussion of significant events that have occurred since December 31, 2011.

## ITEM 9. THE OFFER AND LISTING

### *A. OFFER AND LISTING DETAILS*

Our ordinary shares began trading on The NASDAQ Global Market on February 27, 2007 under the symbol "ROSG." On June 30, 2010, we transferred the listing of our ordinary shares from The NASDAQ Global Market to The NASDAQ Capital Market. Prior to February 27, 2007, there was no established public trading market for our ordinary shares. The high and low sales prices per share of our ordinary shares for the periods indicated are set forth below. This information reflects the 1-for-4 reverse stock split effected on July 6, 2011.

| Year Ended | High | Low |
|---|---|---|
| December 31, 2007 | $ 8.94 | $ 4.75 |
| December 31, 2008 | $ 25.00 | $ 4.32 |
| December 31, 2009 | $ 15.20 | $ 4.72 |
| December 31, 2010 | $ 13.92 | $ 3.60 |
| December 31, 2011 | $ 4.12 | $ 0.13 |

| Quarter Ended | High | Low |
|---|---|---|
| March 31, 2010 | $ 13.92 | $ 6.36 |
| June 30, 2010 | $ 9.56 | $ 6.20 |
| September 30, 2010 | $ 6.90 | $ 3.72 |
| December 31, 2010 | $ 7.08 | $ 3.60 |
| March 31, 2011 | $ 4.12 | $ 2.00 |
| June 30, 2011 | $ 2.20 | $ 0.80 |
| September 30, 2011 | $ 2.43 | $ 0.91 |
| December 31, 2011 | $ 1.37 | $ 0.13 |
| March 31, 2012 | $ 0.75 | $ 0.16 |

| Month Ended | High | Low |
|---|---|---|
| October 31, 2011 | $ 1.37 | $ 0.69 |
| November 30, 2011 | $ 0.74 | $ 0.20 |
| December 31, 2011 | $ 0.34 | $ 0.13 |
| January 31, 2012 | $ 0.75 | $ 0.16 |
| February 29, 2012 | $ 0.49 | $ 0.30 |
| March 31, 2012 | $ 0.64 | $ 0.25 |

### *B. PLAN OF DISTRIBUTION*

Not applicable.

### *C. MARKETS*

Our ordinary shares are traded only in the United States on The NASDAQ Capital Market.

### *D. SELLING SHAREHOLDERS*

Not applicable.

### *E. DILUTION*

Not applicable.

### *F. EXPENSES OF THE ISSUE*

Not applicable.

## ITEM 10. ADDITIONAL INFORMATION

### *A. SHARE CAPITAL*

Not applicable.

### *B. MEMORANDUM AND ARTICLES OF ASSOCIATION*

**Objects and Purposes**

We were first registered under Israeli law on March 9, 2000. Our registration number with the Israel Registrar of Companies is 51-292138-8. The objective stated in Section 3 of our Articles is to carry on any business and perform any act which is not prohibited by law.

**Fiduciary Duties of Office Holders**

An "office holder" is defined in the Companies Law as a managing director, chief executive officer, executive vice president, vice president, or any other person fulfilling or assuming any of the foregoing positions without regard to such person's title, as well as a director, or a manager directly subordinate to the managing director.

The Companies Law imposes a duty of care and a duty of loyalty on all office holders of a company. The duty of care requires an office holder to act with the standard of skills with which a reasonable office holder in the same position would have acted under the same circumstances. The duty of care includes a duty to use reasonable means to obtain:

- information regarding the business advisability of a given action brought for his or her approval or performed by him or her by virtue of his or her position; and
- all other information of importance pertaining to the aforesaid actions.

The duty of loyalty requires an office holder to act in good faith and for the benefit of the company and includes a duty to:

- refrain from any act involving a conflict of interest between the fulfillment of his or her role in the company and the fulfillment of any other role or his or her personal affairs;
- refrain from any activity that is competitive with the business of the company;
- refrain from exploiting any business opportunity of the company with the aim of obtaining a personal gain for himself or herself or others; and
- disclose to the company all information and provide it with all documents relating to the company's affairs which the office holder has obtained due to his position in the company.

Each person listed in the table under "Item 6 - Directors, Senior Management and Employees - A. Directors and Senior Management" is an office holder.

**Disclosure of Personal Interests of an Officer Holder**

The Companies Law requires that an office holder disclose to the company any personal interest that he or she may have, and all related material information and documents known to him or her, in connection with any existing or proposed transaction by the company. The disclosure is required to be made promptly and in any event, no later than the board of directors meeting in which the transaction is first discussed. "Personal interest", is defined by the Companies Law, as a personal interest of a person in an act or transaction of the company, including a personal interest of his or her relative or of a corporate body in which that person or a relative of that person is a holder of 5% or more of that corporate body's outstanding shares or voting rights, is a director or general manager, or in which he or she has the right to appoint at least one director or the general manager. "Personal interest" does not apply to a personal interest stemming merely from the fact that the office holder is also a shareholder in the company. The term "personal interest" also includes the personal interest of a person voting under a proxy given by another person, even if such appointing person has no personal interest in the proposed act or transaction. In addition, the vote of a person voting under a proxy given by a person having a personal interest in the proposed act or transaction, even if the person voting under the proxy has no personal interest, shall be deemed as a vote made by a person having a personal interest in the proposed act or transaction. The Companies Law defines a "relative" as a person's spouse, sibling, parent, grandparent or descendent, as well as the descendant, sibling or parent of a person's spouse, or the spouse of any of the foregoing.

Notwithstanding the above, if the transaction is not an extraordinary transaction, the office holder is not required to disclose any personal interest that he or she has solely as a result of a personal interest of his or her relative in the transaction.

**Transactions Requiring Special Approval**

Under the Companies Law, an extraordinary transaction is a transaction:

- not in the ordinary course of business of the company;
- not on market terms; or
- likely to have a material impact on the company's profitability, assets or liabilities.

Under the Companies Law, certain transactions require special approvals, provided however that such transactions are not adverse to the company's interest. A transaction, between the company and an office holder, or a third party in which the office holder has a personal interest, must be approved by the board, subject to the provisions of applicable law and the company's articles of association. If the transaction is an extraordinary transaction or if the transaction relates to the terms of office and employment of an office holder, then it also must be approved by the audit committee, prior to the approval of the board of directors. Any engagement between a company and any one of its directors with respect to terms of office and/or employment by the company, including with respect to the grant of exculpation, indemnification or insurance of a director would generally require shareholder approval in addition to the approval of the audit committee and the board of directors. Generally, any person having a personal interest in the approval of a transaction which is considered at a meeting of the board of directors or the audit committee, may not be present at such meeting or participate in the vote on such transaction, provided however that an office holder having a personal interest in a transaction may be present in order to present such transaction, if the chairman of the audit committee or of the board of directors, as applicable, determine that the presence of such office holder is required for the presentation of the transaction. Notwithstanding the foregoing, a director may be present at such meeting and may participate in the vote on such transaction, if the majority of the board of directors or the audit committee, as applicable, has a personal interest in the transaction. If a majority of the directors have a personal interest in a transaction, shareholder approval is also required.

Under the Companies Law, the disclosure requirements which apply to an office holder also apply to a controlling shareholder of a public company. For these purposes, a controlling shareholder is any shareholder that has the ability to direct the activities of the company, including a shareholder holding 25% or more of the voting rights if no other shareholder owns more than 50% of the voting rights in the company, but excluding a shareholder whose power derives solely from his or her position on the board of directors or any other position with the company. If two or more shareholders are interested parties in the same transaction, their shareholdings are combined for the purposes of calculating percentages.

Under the Companies Law, extraordinary transactions of a public company with a controlling shareholder or in which a controlling shareholder has a personal interest, as well as any engagement between a public company and a controlling shareholder thereof or such controlling shareholder's relative, whether directly or indirectly, including through a company controlled by such person with respect to the provision of services to the company, and if such person is also an office holder of such company - with respect to such person's terms of service and employment as an office holder, and if such person is an employee of the company but not an office holder with respect to such person's employment by the company, generally requires the approval of the audit committee, the board of directors and the shareholders of the company. such shareholder approval is required, it must satisfy either of the following criteria:

- the majority of the votes for the approval includes the votes of at least a majority of the total votes of shareholders who are present at the meeting and who have no personal interest in the transaction; the votes of abstaining shareholders shall not be included in the number of the said total votes; or

- the total number of votes against the approval of the transaction, among the shareholders who are present at the meeting and who have no personal interest in the transaction shall not exceed 2% of the aggregate voting rights in the company.

According to the above amendment, transactions that are for a period of more than three years generally need to be brought for approval in accordance with the above procedure every three years.

In those circumstances in which shareholders approval is required, shareholders have the right to review any documents in the company's possession related to the proposed transaction. However, the company may prohibit a shareholder from reviewing the documents if the company believes the request was made in bad faith, the documents include trade secrets or patents or their disclosure could otherwise harm the company's interests.

For information concerning the direct and indirect personal interests of certain of our office holders and principal shareholders in certain transactions with us, see "Item 7 - Major Shareholders and Related Party Transactions - B. Related Party Transactions."

**Directors' and Officers' Compensation**

Under the Companies Law, any arrangement as to the compensation of directors, as well as exculpation, indemnification and insurance of directors, generally requires the approval of the audit committee, the board of directors and the shareholders. In addition, any arrangement between a company and an office holder who is not a director as to such office holders' terms of office and employment, including, the grant of exculpation, indemnification and insurance, shall require prior to the approval of the board of

directors, the approval of the audit committee or of a compensation committee provided that the compensation committee meets all of the requirements applicable to audit committees.

**Directors Borrowing Powers**

Our board of directors may from time to time, in its discretion, cause the Company to borrow or secure the payment of any sum or sums of money for the purposes of the Company.

**Rights Attached to Our Shares**

*Dividend Rights.* Our Articles provide that our board of directors may, subject to the applicable provisions of the Companies Law, from time to time, declare such dividend as may appear to the board of directors to be justified by the profits of the Company. Subject to the rights of the holders of shares with preferential or other special rights that may be authorized in the future, holders of ordinary shares are entitled to receive dividends according to their rights and interest in our profits. Dividends, to the extent declared, are distributed according to the proportion of the nominal (par) value paid up on account of the shares held at the date so appointed by the Company, without regard to the premium paid in excess of the nominal (par) value, if any. Under the Companies Law, a company may distribute a dividend only if the distribution does not create a reasonable concern that the company will be unable to meet its existing and anticipated obligations as they become due. A company may only distribute a dividend out of the company's profits, as defined under the Companies Law. If the company does not meet the profit requirement, a court may allow it to distribute a dividend, as long as the court is convinced that there is no reasonable concern that such distribution might prevent the company from being able to meet its existing and anticipated obligations as they become due.

*Voting Rights.* Holders of ordinary shares have one vote for each ordinary share held on all matters submitted to a vote of shareholders. These voting rights may be affected by the grant of any special voting rights to the holders of a class of shares with preferential rights that may be authorized in the future. The ordinary shares do not have cumulative voting rights in the election of directors. As a result, holders of ordinary shares that represent more than 50% of the voting power at the general meeting of shareholders, in person or by proxy, have the power to elect all the directors whose positions are being filled at that meeting to the exclusion of the remaining shareholders. With respect to the election of external directors see Item 6. "Directors, Senior Management and Employees– C. Board Practices - External Directors."

*Liquidation Rights.* In the event of our liquidation, subject to applicable law, after satisfaction of liabilities to creditors, our assets will be distributed to the holders of ordinary shares in proportion to their respective holdings. This liquidation right may be affected by the grant of preferential dividends or distribution rights to the holders of a class of shares with preferential rights that may be authorized in the future.

*Redemption Provisions.* We may, subject to applicable law and to our Articles, issue redeemable preference shares and redeem the same.

*Capital Calls.* Under our Articles and the Companies Law, the liability of our shareholders is limited to the nominal (par) value of the shares held by them.

*Transfer of Shares.* Fully paid ordinary shares are issued in registered form and may be transferred pursuant to our Articles, unless such transfer is restricted or prohibited by another instrument and subject to applicable securities laws.

**Modification of Rights**

Pursuant to our Articles, if at any time our share capital is divided into different classes of shares, the rights attached to any class, unless otherwise provided by our Articles, may be modified or abrogated by the Company, by a resolution of the shareholders, subject to the consent in writing of the holders of at least a majority of the issued shares of such class or the adoption of a resolution passed at a separate meeting of the holders of the shares of such class.

**Shareholders' Meetings and Resolutions**

Pursuant to our Articles, the quorum required for an ordinary meeting of shareholders consists of at least two shareholders present in person or by proxy, who hold shares conferring in the aggregate more than 25% of the voting power of the Company. A meeting adjourned for lack of a quorum generally is adjourned to the same day in the following week at the same time and place or any time and place as the chairman of the board of directors may designate. At such reconvened meeting, the required quorum consists of any two shareholders present in person or by proxy.

Under the Companies Law, each shareholder of record will be provided at least 21 calendar days' prior notice of any general shareholders meeting or 35 days prior notice to the extent required under regulations promulgated under the Companies Law.

Under the Companies Law and our Articles, all resolutions of our shareholders require a simple majority of the shares present, in person or by proxy or by written ballot, and voting on the matter, subject to certain exceptions provided for in our Articles namely: (a)

the amendment of the provisions of our Articles relating to the election of directors, which require the approval of the greater of (i) holders of not less than seventy-five percent (75%) of the voting power represented at a meeting in person or by proxy and voting thereon, or (ii) holders of a majority of the outstanding voting power of all shares of the Company voting on such matter at a general meeting; (b) the removal of any director from office, the election of a director in place of a director so removed or the filling of any vacancy, however created, on the board of directors, which require the vote of the holders of at least 75% of the voting power represented at the meeting; and (c) the consummation of a merger (as defined in the Companies Law) which requires the approval of the holders of at least a majority of the voting power of the Company.

Under the Companies Law, each and every shareholder has a duty to act in good faith and in customary manner in exercising his or her rights and fulfilling his or her obligations towards the company in which he or she holds shares and other shareholders, and refrain from abusing his or her power in the company, including in voting in the general meeting of shareholders on the following matters:

— any amendment to the articles of association;

— an increase of our authorized share capital;

— a merger; or

— approval of interested party transactions that require shareholder approval.

In addition, each and every shareholder has the general duty to refrain from discriminating against other shareholders. In addition, any controlling shareholder, any shareholder who knows that it possesses the power to determine the outcome of a shareholder or class vote and any shareholder who, pursuant to the company's articles of association has the power to appoint or prevent the appointment of an office holder in the company is under a duty to act with fairness towards the company. The Companies Law does not describe the substance of this duty of fairness.

Our annual general meetings are held once in every calendar year at such time (within a period of not more than fifteen months after the last preceding annual general meeting) and at such place determined by our board of directors. All general meetings other than annual general meetings are called extraordinary general meetings.

Our board of directors may, in its discretion, convene additional meetings as "extraordinary general meetings." In addition, the board of directors must convene an extraordinary general meeting upon the demand of two of the directors, one fourth of the directors in office, one or more shareholders having at least 5% of the outstanding share capital and at least 1% of the voting power in the company, or one or more shareholders having at least 5% of the voting power in the company. The chairperson of the board of directors shall preside at each of our general meetings, or if at any meeting the chairperson is not present within fifteen (15) minutes after the time fixed for holding the meeting or is unwilling to act as chairperson, then if there is a co-chairperson, such co-chairperson shall preside at the meeting, or in the absence of both, the shareholders present shall choose someone of their number to be chairperson. The chairperson of the board of directors is not entitled to a vote at a general meeting in his capacity as chairperson.

**Limitation on Owning Securities**

Our Articles and Israeli law do not restrict in any way the ownership or voting of ordinary shares by non-residents or persons who are not citizens of Israel, except with respect to subjects of nations which are in a state of war with Israel.

**Mergers and Acquisitions and Tender Offers under Israeli Law**

The Companies Law includes provisions that allow a merger transaction and requires that each company that is a party to a merger have the transaction approved by its board of directors and by a simple majority of shares present, in person or by proxy, at a general meeting and voting on the transaction (including the separate vote of each class of shares of the party to the merger which is not the surviving entity) at a shareholders' meeting called on at least 35 days' prior notice. In addition, under our Articles, approval of a merger transaction requires that holders of at least a majority of the voting power of the Company vote in favor of the merger transaction. In determining whether the required majority under the Companies Law has approved the merger, if shares of a company are held by the other party to the merger, or by any person holding 25% or more of the voting rights or 25% or more of the means of appointing directors of the other party to the merger, then a vote against the merger by holders of the majority of the shares present and voting, excluding shares held by the other party to the merger or by such person, or by any person or entity acting on behalf of either of them, including their relatives or entities controlled by any of them, is sufficient to reject the merger transaction. If the transaction would have been approved but for the separate approval of each class or exclusion of the votes of certain shareholders as provided above, a court may still approve the merger upon the request of holders of at least 25% of the voting rights of a company, if the court holds that the merger is fair and reasonable, taking into account the value of the parties to the merger and the consideration offered to the shareholders. Notwithstanding the foregoing, a merger that is also an extraordinary transaction with a controlling shareholder or with another person in which a controlling shareholder has a personal interest, requires approval as an extraordinary transaction with a controlling shareholder. See "— Transactions Requiring Special Approval".

Under the Companies Law, each merging company must inform its secured creditors of the proposed merger plans. Upon the request of a creditor of either party of the proposed merger, the court may delay or prevent the merger if it concludes that there exists a reasonable concern that as a result of the merger, the surviving company will be unable to satisfy the obligations of any of the parties to the merger and may further give instructions to secure the rights of creditors. In addition, a merger may not be completed unless at least 50 days have passed from the time that a proposal for the approval of the merger has been filed with the Israel Registrar of Companies and 30 days have passed from the time that the approval of the merging parties' shareholders has been received.

The Companies Law also provides that, subject to certain exceptions, an acquisition of shares of a public company must be made by means of a special tender offer if as a result of the acquisition the purchaser would become a holder of 25% or more of the voting rights in the company and there is no existing holder of 25% or more of the voting rights in the company. Similarly, the Companies Law provides that, subject to certain exceptions, an acquisition of shares in a public company must be made by means of a special tender offer if as a result of the acquisition the purchaser would become a holder of more than 45% of the voting rights in the company, if there is no other shareholder of the company that holds more than 45% of the voting rights in the company.

Under the Companies Law, a person may not acquire shares in a public company if, following the acquisition, the acquirer will hold more than 90% of the company's shares or more than 90% of any class of shares, other than by means of a tender offer to acquire all of the shares or all of the shares of the particular class.

The Companies Law also provides that as long as a shareholder in a public company holds more than 90% of the company's shares or of a class of shares, that shareholder shall be precluded from purchasing any additional shares. In order that all of the shares that the acquirer offered to purchase be transferred to him by operation of law, one of the following needs to have occurred: (i) the shareholders who declined or do not respond to the tender offer hold less than 5% of the company's outstanding share capital or of the relevant class of shares and the majority of offerees who do not have a personal interest in accepting the tender offer accepted the offer, or (ii) the shareholders who declined or do not respond to the tender offer hold less than 2% of the company's outstanding share capital or of the relevant class of shares.

A shareholder that had its shares so transferred, whether he or she accepted the tender offer or not, has the right, within six months from the date of acceptance of the tender offer, to petition the court to determine that the tender offer was for less than fair value and that the fair value should be paid as determined by the court. However, the purchaser may provide in its offer that shareholders who accept the tender offer will not be entitled to such rights.

If the conditions set forth above are not met, the acquirer may not acquire additional shares of the company from shareholders who accepted the tender offer to the extent that following such acquisition the acquirer would own more than 90% of the company's issued and outstanding share capital.

The above restrictions apply, in addition to the acquisition of shares, to the acquisition of voting power. In addition, the provisions regarding tender offers shall also apply to the acquisition of any other securities of the company.

Notwithstanding the above, Israeli antitrust laws require that certain mergers be announced and receive approval of the Israeli Antitrust authority.

### *C. MATERIAL CONTRACTS*

Please see "Item 4. Information on the Company — B. Business Overview — Our Intellectual Property Strategy and Position — In-Licensed Intellectual Property for a discussion of our material strategic alliances and research and license agreements. Please see "Item 7. Major Shareholders and Related Party Transactions— B. Related Party Transactions" for a discussion of other material contracts entered into other than in the ordinary course of business.

### *D. EXCHANGE CONTROLS*

There are currently no exchange controls in effect in Israel that restrict the repatriation by non-residents of Israel in non-Israeli currency of any dividends, if any are declared and paid, and liquidation distributions.

### *E. TAXATION*

**ISRAELI TAX CONSIDERATIONS AND GOVERNMENT PROGRAMS**

The following contains a description of material relevant provisions of the current Israeli income tax regime applicable to companies in Israel, with special reference to its effect on us. To the extent that the discussion is based on new tax legislation which has not been subject to judicial or administrative interpretation, we cannot assure you that the views expressed in the discussion will be accepted by the appropriate tax authorities or the courts.

This discussion does not address all of the tax consequences that may be relevant to purchasers of our ordinary shares in light of their particular circumstances or certain types of purchasers of our ordinary shares subject to special tax treatment. Examples of this kind of investor include residents of Israel and traders in securities who are subject to special tax regimes not covered in this discussion. Because individual circumstances may differ, you should consult your tax advisor to determine the applicability of the rules discussed below to you and the particular tax effects of the offer, including the application of Israeli or other tax laws. The discussion below is not intended, and should not be construed, as legal or professional tax advice and is not exhaustive of all possible tax considerations.

**Taxation of Companies**

***General Corporate Tax Structure***

Generally, in 2011, Israeli companies were subject to a corporate tax at the rate of 24% of their taxable income for such year. The corporate tax rate was scheduled to decline to 23% in 2012, 22% in 2013, 21% in 2014, 20% in 2015 and 18% in 2016 and onwards. Recently, the Law for Change in the Tax Burden (Legislative Amendments) (Taxes). 2011, or the Tax Burden Law, was published by the Government of Israel. The Tax Burden Law canceled the scheduled progressive reduction of the corporate tax rate and instead fixed the corporate tax rate at 25% from 2012 and onwards. However, the effective tax rate payable by a company which derives income from an Approved Enterprise, a Privileged Enterprise or a Preferred Enterprise (each, as defined and as further discussed below) may be considerably less.

***Tax Benefits for Research and Development***

Israeli tax law allows, under specified conditions, a tax deduction for R&D expenditures, including capital expenditures, for the year in which they are incurred. These expenses must relate to scientific research and development projects and must be approved by the relevant Israeli government ministry, determined by the field of research. Furthermore, the research and development must be for the promotion of the company and carried out by or on behalf of the company seeking such tax deduction. However, the amount of such deductible expenses is reduced by the sum of any funds received through government grants for the finance of such scientific research and development projects. Expenditures not so approved are deductible over a three-year period. The OCS has approved some of our research and development programs and we have been able to deduct, for tax purposes, a portion of our research and development expenses net of the grants received. Other research and development expenses that are not approved may be deducted for tax purposes in 3 equal installments during a 3-year period.

***Tax Benefits Under the Law for the Encouragement of Industry (Taxes), 1969***

The Law for the Encouragement of Industry (Taxes), 1969, or the “Industry Encouragement Law”, provides several tax benefits for “Industrial Companies”. Under the law, an “Industrial Company” is defined as a company resident in Israel, which at least 90% of its income in any given tax year determined in Israeli currency exclusive of income from government loans, capital gains, interest and dividends, is generated from an “Industrial Enterprise” that it owns. An Industrial Enterprise is defined as an enterprise whose major activity in a given tax year, is industrial production activity. Under the Industry Encouragement Law, Industrial Companies are entitled to certain tax benefits, including:

Deduction of purchases of know - how and patents , over an eight-year period for tax;

Right to elect, under specified conditions, to file a consolidated tax return with additional related Israeli Industrial Companies and;

Deduction over a a three year period of expenses involved with the issuance and listing of shares on a stock market.

Under some tax laws and regulations, an Industrial Enterprise may be eligible for special depreciation rates for machinery, equipment and buildings. These rates differ based on various factors, including the date the operations begin and the number of work shifts. An Industrial Company owning an Approved Enterprise a Privileged Enterprise or Preferred Enterprise may choose between these special depreciation rates and the depreciation rates available to the Approved Enterprise Privileged Enterprise or Preferred Enterprise.

Eligibility for benefits under the Industry Encouragement Law is not subject to receipt of prior approval from any governmental authority.

We believe that we currently qualify as an industrial company within the definition under the Law for the Encouragement of Industry. No assurance can be given that we will continue to qualify as an industrial company or that the benefits described above will be available in the future.

***Special Provisions Relating to Taxation under Inflationary Conditions***

The Income Tax Law (Inflationary Adjustments), 5745-1985, or the Inflationary Adjustments Law, represents an attempt to overcome the problems presented to a traditional tax system by an economy with high inflation rates. Under the Inflationary Adjustments Law, taxable results of Israeli companies through, and including, the year 2007 were measured on a real basis, taking into account the rate

of change in the Israeli consumer price index, or CPI. Subject to certain transitional provisions, the Inflationary Adjustments Law was repealed as of January 1, 2008.

***Tax Benefits under the Law for the Encouragement of Capital Investments, 1959***

The Company benefits from certain government programs and tax legislation, particularly as a result of the 'Approved Enterprise' or 'Benefiting Enterprise' status of substantially all of the Company's existing production facilities in Israel under the Law for the Encouragement of Capital Investment, 1959 (an "Approved Enterprise", a "Benefiting Enterprise" and the " "Investment Law" respectively) provides that a proposed capital investment in production facilities or other eligible facilities may be designated as an "Approved Enterprise." To obtain "Approved Enterprise" status, an application to the Investment Center of the Ministry of Industry and Trade (the "Investment Center") needs to be submitted. Each instrument of approval for an Approved Enterprise relates to a specific investment program that is defined both by the financial scope of the investment, including sources of funds, and by the physical characteristics of the facility or other assets.

The tax benefits available under any instrument of approval relate only to taxable profits attributable to the specific program and are contingent upon meeting the criteria set out in the instrument of approval. If a company has more than one approval or only a portion of its capital investments are approved, its effective tax rate is the weighted average of the applicable rates. Subject to certain qualifications, however, if a company with one or more approvals distributes dividends, the dividends are deemed attributable to the entire enterprise. As explained below, following the amendment of the Investment Law which became effective on April, 1, 2005, companies may receive tax benefits under the law without applying for an Approved Enterprise status.

The Investments Law also provides that an Approved Enterprise is entitled to accelerated depreciation on its property and equipment that are included in an Approved Enterprise program in the first five years of using the equipment.

***Tax Benefits for Income from Approved Enterprises Approved Before April 1, 2005***

Before April 1, 2005 an Approved Enterprise was entitled to either receive investment grants and certain tax benefits from the Government of Israel or an alternative package of tax benefits ("Alternative Benefits"). We have elected to forego the entitlement to grants and have applied for the Alternative Benefits, under which undistributed income that we generate from our Approved Enterprises will be completely tax exempt (a "tax exemption") for two years commencing from the year that we first produce taxable income and will be subject to a reduced tax rate of 10%-25% for an additional five to eight years, depending on the extent of foreign investment in the company.

Alternative Benefits are available until the earlier of (i) seven consecutive years, commencing in the year in which the specific Approved Enterprise first generates taxable income, (ii) 12 years from commencement of production and (iii) 14 years from the date of approval of the Approved Enterprise status.

Dividends paid out of income generated by an Approved Enterprise (or out of dividends received from a company whose income is generated by an Approved Enterprise) are generally subject to withholding tax at the rate of 15%. This tax is withheld at source by the Approved Enterprise. The 15% tax rate is limited to dividends and distributions out of income derived during the benefits period and actually paid at any time up to 12 years thereafter. Since we elected the Alternative Benefits track, we will be subject to pay corporate tax at the rate of 10% - 25% in respect of the gross amount of the dividend that we may distribute out of profits which were exempt from corporate tax in accordance with the provisions of the Alternative Benefits track.

If we qualify as a "Foreign Investors' Company" or "FIC", our Approved Enterprises will be entitled to additional tax benefits. Subject to certain conditions, a FIC is a company with a level of foreign investment of more than 25%. The level of foreign investment is measured as the percentage of rights in the company (in terms of shares, rights to profits, voting and appointment of directors), and of combined share and loan capital, that are owned, directly or indirectly, by persons who are not residents of Israel. Such a company will be eligible for an extension of the period during which it is entitled to tax benefits under its Approved Enterprise status (so that the benefit periods may be up to ten years) and for further tax benefits if the level of foreign investment exceeds 49%. The tax rate for the remainder of the benefits period will be 25%, unless the level of foreign investment exceeds 49%, in which case the tax rate will be 20% if the foreign investment is more than 49% and less than 74%; 15% if more than 74% and less than 90%; and 10% if 90% or more. The benefits available to an Approved Enterprise are subject to the fulfillment of conditions stipulated in the Investment Law and its regulations and the criteria in the specific certificate of approval, as described above. If a company does not meet these conditions, it would be required to refund the amount of tax benefits, together with consumer price index linkage adjustment and interest.

***Tax Benefits under an Amendment that became effective on April 1, 2005***

On April 1, 2005, a significant amendment to the Investment Law became effective (the "2005 Amendment"). The Investment Law provides that terms and benefits included in any certificate of approval that was granted before the 2005 Amendment came into effect will remain subject to the provisions of the Investment Law as they were on the date of such approval.

The 2005 Amendment changed certain provisions of the Law. As a result of the 2005 Amendment, a company is no longer obliged to acquire Approved Enterprise status in order to receive the tax benefits previously available under the Alternative Benefits provisions, and therefore generally there is no need to apply to the Investment Center for this purpose (Approved Enterprise status remained mandatory for companies seeking grants). Rather, the company may claim the tax benefits offered by the Investments Law directly in its tax returns, provided that its facilities meet the criteria for tax benefits set out by the 2005 Amendment. A company is also granted a right to approach the Israeli Tax Authority for a pre-ruling regarding their eligibility for benefits under the 2005 Amendment.

Tax benefits are available under the 2005 Amendment to production facilities (or other eligible facilities), which are generally required to derive more than 25% of their business income from export (referred to as a "Benefited Enterprise"). In order to receive the tax benefits, the 2005 Amendment states that the company must make an investment which meets all the conditions set out in the 2005 Amendment for tax benefits and exceeds a minimum amount specified in the Investment Law. Such investment allows the company to receive a "Benefiting Enterprise" status, and may be made over a period of no more than three years ending at the end of the year in which the company requested to have the tax benefits apply to the Benefiting Enterprise (the "Year of Election"). Where the company requests to have the tax benefits apply to an expansion of existing facilities, only the expansion will be considered to be a Benefiting Enterprise and the company's effective tax rate will be the weighted average of the applicable rates. In this case, the minimum investment required in order to qualify as a Benefiting Enterprise is required to exceed a certain amount or certain percentage of the value of the company's production assets before the expansion.

The duration of tax benefits is subject to a limitation of the earlier of 7 (or 10 years) from the commencement year, or 12 years from the first day of the Year of Election. The tax benefits granted to a Benefiting Enterprise are determined, as applicable to its geographic location within Israel, according to one of the following new tax routes, which may be applicable to us:

- Similar to the previous Alternative Benefits package, exemption from corporate tax on undistributed income for a period of two to ten years, depending on the geographic location of the Benefiting Enterprise within Israel, and a reduced corporate tax rate of 10% to 25% for the remainder of the benefits period, depending on the level of foreign investment in each year. Benefits may be granted for a term of seven or ten years, depending on the level of foreign investment in the company. If the company pays a dividend out of income derived from the Benefiting Enterprise during the tax exemption period, such income will be subject to corporate tax at the applicable rate (10%-25%). The company is required to withhold tax at the source at a rate of 15% from any dividends distributed from income derived from the Benefiting Enterprise; and

- A special tax route, which enables companies owning facilities in certain geographical locations in Israel to pay corporate tax at the rate of 11.5% on income of the Benefiting Enterprise. The benefits period is ten years. Upon payment of dividends, the company is required to withhold tax at source at a rate of 15% for Israeli residents and at a rate of 4% for foreign residents.

Generally, a company which has a sufficiently high level of foreign investment (as defined in the Investments Law) is entitled to an extension of the benefits period by an additional five years, depending on the extent of its income that is derived from exports.

Dividends paid out of income derived by a Benefiting Enterprise will be treated similarly to payment of dividends by an Approved Enterprise under the Alternative Benefits track. Therefore, dividends paid out of income derived by a Benefiting Enterprise (or out of dividends received from a company whose income is derived from a Benefiting Enterprise) are generally subject to withholding tax at the reduced rate of 15% (deductible at source). The reduced rate of 15% is limited to dividends and distributions out of income derived from a Benefiting Enterprise during the benefits period and actually paid at any time up to 12 years thereafter. A company qualifying for tax benefits under the 2005 Amendment which pays a dividend out of income derived by its Benefiting Enterprise during the tax exemption period will be subject to tax in respect of the gross amount of the dividend at the otherwise applicable rate of 10%-25%.

The 2005 Amendment changed the definition of "foreign investment" in the Investment Law so that the definition now requires a minimal investment of NIS 5 million by foreign investors. Furthermore, such definition now also includes the purchase of shares of a company from another shareholder, provided that the company's outstanding and paid-up share capital exceeds NIS 5 million. Such changes to the aforementioned definition are retroactive from 2003.

As a result of the 2005 Amendment, tax-exempt income generated under the new provisions will subject us to taxes upon distribution of the tax-exempt income to shareholders or upon liquidation of the company, and we may be required to record a deferred tax liability with respect to such tax-exempt income.

***2011 Tax Amendment***

Additional amendments to the Investment Law became effective in January 2011 (the "2011 Tax Amendment"). Under the 2011 Tax Amendment, income derived by 'Preferred Companies' from 'Preferred Enterprises' (both as defined in the 2011 Tax Amendment) would be subject to a uniform rate of corporate tax as opposed to the current incentives that are limited to income from Approved or Benefiting Enterprises during their benefits period. According to the 2011 Tax Amendment, the uniform tax rate on such income, referred to as 'Preferred Income', would be 10% in areas in Israel that are designated as Development Zone A and 15% elsewhere in Israel during 2011-2012, 7% and 12.5%, respectively, in 2013-2014, and 6% and 12%, respectively, thereafter. Income derived by a Preferred Company from a 'Special Preferred Enterprise' (as defined in the Investment Law) would enjoy further reduced tax rates for a period of ten years of 5% in Zone A and 8% elsewhere. As with dividends distributed from taxable income derived from an Approved Enterprise or Benefiting Enterprise during the applicable benefits period, dividends distributed from Preferred Income would be subject to a 15% tax (or lower, if so provided under an applicable tax treaty), which would generally be withheld by the distributing company. While the Company may incur additional tax liability in the event of distribution of dividends from tax exempt income generated from its Approved and Benefiting Enterprises, no additional tax liability will be incurred by the Company in the event of distribution of dividends from income taxed in accordance with the 2011 Tax Amendment.

Under the transitional provisions of the 2011 Tax Amendment, the Company may elect whether to irrevocably implement the 2011 Tax Amendment with respect to its existing Approved and Benefiting Enterprises while waiving benefits provided under the legislation prior to the 2011 Tax Amendment or keep implementing the legislation prior to the 2011 Tax Amendment during the next years.

We do not expect the 2011 Tax Amendment to have a material effect on the tax payable in respect of our Israeli operations.

As of December 31, 2011, we did not generate income under any of the above mentioned laws.

**Israeli Transfer Pricing Regulations**

On November 29, 2006, Income Tax Regulations (Determination of Market Terms), 2006, promulgated under Section 85A of the Tax Ordinance, came into effect (the "TP Regs"). Section 85A of the Tax Ordinance and the TP Regs generally require that all cross-border transactions carried out between related parties be conducted on an arm's length basis and be taxed accordingly. The TP Regs are not expected to have a material effect on us.

**Israeli Taxation Considerations for Our Shareholders**

The following is a short summary of the material provisions of the tax environment to which shareholders may be subject. This summary is based on the current provisions of tax law. To the extent that the discussion is based on new tax legislation that has not been subject to judicial or administrative interpretation, we cannot assure you that the views expressed in the discussion will be accepted by the appropriate tax authorities or the courts.

The summary does not address all of the tax consequences that may be relevant to all purchasers of our common shares in light of each purchaser's particular circumstances and specific tax treatment. For example, the summary below does not address the tax treatment of residents of Israel and traders in securities who are subject to specific tax regimes. As individual circumstances may differ, holders of our common shares should consult their own tax adviser as to the United States, Israeli or other tax consequences of the purchase, ownership and disposition of common shares. The following is not intended, and should not be construed, as legal or professional tax advice and is not exhaustive of all possible tax considerations. Each individual should consult his or her own tax or legal adviser.

**Tax Consequences Regarding Disposition of Our Common Shares**

**Overview**

Israeli law generally imposes a capital gains tax on the sale of capital assets by residents of Israel, as defined for Israeli tax purposes, and on the sale of assets located in Israel, including shares in Israeli companies, by both residents and non-residents of Israel, unless a specific exemption is available or unless a tax treaty between Israel and the shareholder's country of residence provides otherwise. The Ordinance distinguishes between the "Real Capital Gain" and the "Inflationary Surplus". The Inflationary Surplus is a portion of the total capital gain which is equivalent to the increase of the relevant asset's purchase price which is attributable to the increase in the Israeli consumer price index (CPI) or, in certain circumstances, a foreign currency exchange rate, between the date of purchase and the date of sale. The Real Capital Gain is the excess of the total capital gain over the Inflationary Surplus.

**Israeli Resident Shareholders**

Israeli Resident Individuals. Beginning as of January 1, 2006, the tax rate applicable to Real Capital Gain derived by Israeli individuals from the sale of shares which had been purchased on or after January 1, 2003, whether or not listed on a stock exchange, is 20%. However, if such a shareholder is considered a Substantial Shareholder (i.e., a person who holds, directly or indirectly, alone or together with another, 10% or more of any of the company's "means of control" (including, among other things, the right to receive profits of the company, voting rights, the right to receive the company's liquidation proceeds and the right to appoint a director)) at the time of sale or at any time during the preceding 12-month period, such gain will be taxed at the rate of 25%. Individual shareholders dealing with securities in Israel are taxed at their marginal tax rates applicable to business income.

Notwithstanding the foregoing, pursuant to the Tax Burden Law, the capital gain tax rate applicable to individuals was raised from 20% to 25% from 2012 and onwards (or from 25% to 30% if the selling individual shareholder is a Substantial Shareholder at any time during the 12-month period preceding the sale). With respect to assets (not shares that are listed on a stock exchange) purchased on or after January 1, 2003, the portion of the gain generated from the date of acquisition until December 31, 2011 will be subject to the previous capital gains tax rates (20% or 25%) and the portion of the gain generated from January 1, 2012 until the date of sale will be subject to the new tax rates (25% or 30%).

Israeli Resident Corporations. Under present Israeli tax legislation, the tax rate applicable to Real Capital Gain derived by Israeli resident corporations from the sale of shares of an Israeli company is the general corporate tax rate. As described above, recent changes in the law abolished the scheduled progressive reduction of the corporate tax rate and set the corporate tax rate at 25% from 2012 and onwards.

**Non-Israeli Resident Shareholders**

Israeli capital gain tax is imposed on the disposal of capital assets by a non-Israeli resident if such assets are either (i) located in Israel; (ii) shares or rights to shares in an Israeli resident company; or (iii) represent, directly or indirectly, rights to assets located in Israel, unless a tax treaty between Israel and the seller's country of residence provides otherwise. As mentioned above, Real Capital Gain derived by a company is generally subject to tax at the corporate tax rate (24% in 2011 and 25% as of 2012) or, if derived by an individual, at the rate of 20% (25% as of 2012), or 25% (30% as of 2012), if generated from an asset purchased on or after January 1, 2003. Individual and corporate shareholders dealing in securities in Israel are taxed at the tax rates applicable to business income (a corporate tax rate for a corporation and a marginal tax rate for an individual).

Notwithstanding the foregoing, shareholders who are non-Israeli residents (individuals and corporations) are generally exempt from Israeli capital gain tax on any gains derived from the sale, exchange or disposition of shares publicly traded on the Tel Aviv Stock Exchange or on a recognized stock exchange outside of Israel, provided, among other things, that (i) such gains are not generated through a permanent establishment that the non-Israeli resident maintains in Israel, (ii) the shares were purchased after being listed on a recognized stock exchange, and (iii) with respect to shares listed on a recognized stock exchange outside of Israel, such shareholders are not subject to the Inflationary Adjustments Law. However, non-Israeli corporations will not be entitled to the foregoing exemptions if an Israeli resident (a) has a controlling interest of 25% or more in such non-Israeli corporation, or (b) is the beneficiary of or is entitled to 25% or more of the revenues or profits of such non-Israeli corporation, whether directly or indirectly. Such exemption is not applicable to a person whose gains from selling or otherwise disposing of the shares are deemed to be business income.

In addition, a sale of securities may be exempt from Israeli capital gain tax under the provisions of an applicable tax treaty. For example, under the U.S.-Israel Tax Treaty, which we refer to as the U.S-Israel Treaty, the sale, exchange or disposition of shares of an Israeli company by a shareholder who is a U.S. resident (for purposes of the U.S.-Israel Treaty) holding the shares as a capital asset is exempt from Israeli capital gains tax unless either (i) the shareholder holds, directly or indirectly, shares representing 10% or more of the voting capital during any part of the 12-month period preceding such sale, exchange or disposition; (ii) the shareholder, being an individual, has been present in Israel for a period or periods of 183 days or more in the aggregate during the applicable taxable year; or (iii) the capital gains arising from such sale are attributable to a permanent establishment of the shareholder which is maintained in Israel. In either case, the sale, exchange or disposition of such shares would be subject to Israeli tax, to the extent applicable; however, under the U.S.-Israel Treaty, a U.S. resident would be permitted to claim a credit for the Israeli tax against the U.S. federal income tax imposed with respect to the sale, exchange or disposition, subject to the limitations in U.S. laws applicable to foreign tax credits. The U.S-Israel Treaty does not provide such credit against any U.S. state or local taxes.

Payors of consideration for traded securities, like our common shares, including the purchaser, the Israeli stockbroker effectuating the transaction, or the financial institution through which the sold securities are held, are required, subject to any of the foregoing exemptions and the demonstration of a shareholder regarding his, her or its foreign residency, to withhold tax upon the sale of publicly traded securities from the consideration or from the Real Capital Gain derived from such sale, as applicable, at the rate of 25%.

**Taxes Applicable to Dividends**

**Israeli Resident Shareholders**

Israeli Resident Individuals. Israeli residents who are individuals are generally subject to Israeli income tax for dividends paid on our common shares (other than bonus shares or share dividends) at 20%, or 25% if the recipient of such dividend is a Substantial Shareholder at the time of distribution or at any time during the preceding 12-month period. Pursuant to the Tax Burden Law, as of 2012 such tax rate is 25%, or 30% if the dividend recipient is a Substantial Shareholder at the time of distribution or at any time during the preceding 12-month period. However, dividends distributed from taxable income accrued during the period of benefit of an Approved Enterprise, Benefited Enterprise or Preferred Enterprise are subject to withholding tax at the rate of 15%, if the dividend is distributed during the tax benefit period under the Investment Law or within 12 years after that period. An average rate will be set in case the dividend is distributed from mixed types of income (regular and Approved/ Benefited/ Preferred income).

Israeli Resident Corporations. Israeli resident corporations are generally exempt from Israeli corporate tax for dividends paid on our common shares.

**Non-Israeli Resident Shareholders**

Non-Israeli residents (whether individuals or corporations) are generally subject to Israeli withholding tax on the receipt of dividends paid for publicly traded shares, like our common shares, at the rate of 20% (25% as of 2012, so long as the shares are registered with a Nominee Company) or 15% if the dividend is distributed from income attributed to our Approved Enterprises, unless a reduced rate is provided under an applicable tax treaty. For example, under the U.S-Israel Treaty, the maximum rate of tax withheld in Israel on dividends paid to a holder of our common shares who is a U.S. resident (for purposes of the U.S.-Israel Treaty) is 25%. However, generally, the maximum rate of withholding tax on dividends that are paid to a U.S. corporation holding at least 10% or more of our outstanding voting capital from the start of the tax year preceding the distribution of the dividend through (and including) the distribution of the dividend, is 12.5%, provided that no more than 25% of our gross income for such preceding year consists of certain types of dividends and interest. Notwithstanding the foregoing, dividends distributed from income attributed to an Approved Enterprise, a Benefited Enterprise or a Preferred Enterprise are subject to a withholding tax rate of 15% for such a U.S. corporation shareholder, provided that the condition related to our gross income for the previous year (as set forth in the previous sentence) is met. If the dividend is attributable partly to income derived from an Approved Enterprise, a Benefitted Enterprise or a Preferred Enterprise, and partly to other sources of income, the withholding rate will be a blended rate reflecting the relative portions of the two types of income. U.S residents who are subject to Israeli withholding tax on a dividend may be entitled to a credit or deduction for U.S. federal income tax purposes in the amount of the taxes withheld, subject to detailed rules contained in United States tax legislation.

A non-Israeli resident who receives dividends from which tax was withheld is generally exempt from the obligation to file tax returns in Israel with respect to such income, provided that (i) such income was not generated from business conducted in Israel by the taxpayer, and (ii) the taxpayer has no other taxable sources of income in Israel with respect to which a tax return is required to be filed.

Payors of dividend on our common shares, including the Israeli stockbroker effectuating the transaction, or the financial institution through which the securities are held, are required, subject to any of the foregoing exemptions and the demonstration of a shareholder regarding his, her or its foreign residency, to withhold tax upon the distribution of dividend at the rate of 25%, so long as the shares are registered with a Nominee Company (for corporations and individuals).

**CERTAIN MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS**

**General**

The following is a summary of certain material U.S. federal income tax consequences to U.S. persons holding our ordinary shares (referred to herein as U.S. holders) of purchasing, owning, and disposing of such shares. For this purpose, a U.S. person is, in each case as defined for U.S. federal income tax purposes: (a) an individual who is a citizen or resident of the United States; (b) a corporation (or other entity taxable as a corporation for U.S. federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia; (c) an estate the income of which is subject to U.S. federal income tax regardless of its source; or (d) a trust that is subject to the primary supervision of a court over its administration and one or more U.S. persons control all substantial decisions, or a trust that has validly elected to be treated as a domestic trust under applicable Treasury Regulations. This summary does not address any tax consequences to persons other than U.S. persons.

This discussion is a general summary and does not address all aspects of U.S. federal income taxation that may be relevant to particular U.S. holders based on their particular investment or tax circumstances. It does not address any tax consequences to certain types of U.S. holders that are subject to special treatment under the U.S. federal income tax laws, such as insurance companies, tax-exempt organizations, financial institutions, broker-dealers, dealers in securities or currencies, traders in securities that elect to use the mark-to-market method of accounting for their securities, partnerships or other pass-through entities for U.S. federal tax purposes, regulated investment companies, real estate investment trusts, expatriates, persons liable for alternative minimum tax, persons owning, directly or by attribution, 10% or more, by voting power or value, of our ordinary shares, persons whose “functional currency” is not the U.S. dollar, persons holding ordinary shares as part of a hedging, constructive sale or conversion, straddle, or other risk-reducing transaction, or persons acquiring an interest in our shares in exchange for services.

This summary addresses only ordinary shares that (a) are held as capital assets, and (b) were acquired upon original issuance at their initial offering price.

This summary relates only to U.S. federal income taxes. It does not address any other tax, including but not limited to, state, local, or foreign taxes, or any other U.S. federal taxes other than income taxes.

The statements in this summary are based on the current U.S. federal income tax laws as contained in the Internal Revenue Code, Treasury Regulations, and relevant judicial decisions and administrative guidance. The U.S. federal tax laws are subject to change, and any such change may materially affect the U.S. federal income tax consequences of purchasing, owning, or disposing of our ordinary shares. We cannot assure you that new laws, interpretations of law or court decisions, any of which may take effect retroactively, will not cause any statement in this summary to be inaccurate. No ruling or opinions of counsel will be sought in connection with the matters discussed herein. There can be no assurance that the positions we take on our tax returns will be accepted by the Internal Revenue Service.

This section is not a substitute for careful tax planning. Prospective investors are urged to consult their own tax advisors regarding the specific U.S. federal, state, foreign and other tax consequences to them, in light of their own particular circumstances, of the purchase, ownership and disposition of our ordinary shares and the effect of potential changes in applicable tax laws.

**Dividends**

A U.S. holder will be required to take into account as dividends any distributions with respect to our ordinary shares made out of our current or accumulated earnings and profits. The dividends received deduction will not be available to a U.S. holder that is taxed as a corporation. With certain exceptions (including but not limited to dividends treated as investment income for purposes of investment interest deduction limitations or dividends taxed as "excess distributions" as described under "Passive Foreign Investment Company" below), qualified dividends received by a non-corporate U.S. holder generally will be subject to tax at the maximum tax rate accorded to capital gains, if certain holding period and other conditions are satisfied, through December 31, 2012, after which the rate applicable to dividends is scheduled to return to the tax rate generally applicable to ordinary income. Dividends will generally be from a non-U.S. source and treated as "passive income" for U.S. foreign tax credit purposes.

Although, to the extent we pay dividends in the future, we intend to pay dividends to U.S. holders in U.S. dollars, the amount of any dividend paid in Israeli currency will equal its U.S. dollar value for U.S. federal income tax purposes, calculated by reference to the exchange rate in effect on the date the dividend is received by the U.S. holder, regardless of whether the Israeli currency is converted into U.S. dollars. If the Israeli currency is not converted into U.S. dollars on the date of receipt, the U.S. holder will have a basis in the Israeli currency equal to its U.S. dollar value on the date of receipt. Any subsequent gain or loss upon the conversion or other disposition of the Israeli currency will be treated as ordinary income or loss, and generally will be income or loss from U.S. sources.

A U.S. holder will not incur tax on a distribution with respect to our ordinary shares in excess of our current and accumulated earnings and profits if the distribution does not exceed the adjusted basis of the U.S. holder's ordinary shares. Instead, the distribution will reduce the adjusted basis of the shares. Any such distribution in excess of both our current and accumulated earnings and profits and the U.S. holder's adjusted basis will be treated as capital gain, long-term if the U.S. holder has held the shares for more than one year, and generally will be gain or loss from U.S. sources. See "Disposition of Ordinary Shares" below for a discussion of capital gains tax rates and limitations on deductions for losses.

**Disposition of Ordinary Shares**

In general, a U.S. holder must treat any gain or loss recognized upon a taxable disposition of our ordinary shares as capital gain or loss, long-term if the U.S. holder has held the shares for more than one year. In general, a U.S. holder will recognize gain or loss in an amount equal to the difference between the sum of the fair market value of any property and the amount of cash received in such disposition and the U.S. holder's adjusted tax basis in such shares. A U.S. holder's adjusted tax basis generally will equal the U.S. holder's acquisition cost less any return of capital. Subject to certain exceptions (including but not limited to those described under "Passive Foreign Investment Company" below), long-term capital gain realized by a non-corporate U.S. holder generally will be subject to a reduced maximum rate of 15% through December 31, 2012, after which the maximum capital gains rate is scheduled to return to 20%. The deduction of capital losses is subject to limitations, as are losses upon a taxable disposition of our ordinary shares if the U.S. holder purchases, or enters into a contract or option to purchase, substantially identical stock or securities within 30 days before or after any disposition. Gain or loss from the disposition of our ordinary shares will generally be from U.S. sources, but such gain or loss may be from a non-U.S. source under some circumstances under the U.S.-Israel Tax Treaty. U.S. holders should consult their own independent tax advisors regarding the sourcing of any gain or loss on the disposition of our ordinary shares, as well as regarding any foreign currency gain or loss in connection with such a disposition.

**Credit for Foreign Taxes Paid or Withheld**

Payments to U.S. holders as dividends or consideration for ordinary shares may in some circumstances be subject to Israeli withholding taxes. See "Israeli Tax Considerations and Government Programs" above. Generally, such withholding taxes in lieu of Israeli income taxes imposed on such transactions are creditable against the U.S. holder's U.S. tax liability, subject to numerous U.S. foreign tax credit limitations, including additional limitations in the case of qualified dividends eligible for the maximum rate accorded to capital gains. A corporate U.S. holder may also be eligible for an "indirect" foreign tax credit on dividends to take account of certain Israeli taxes we previously paid to Israel. A U.S. holder should consult its own independent tax advisor regarding use of the U.S. foreign tax credit and its limitations. A U.S. holder (except an individual who does not itemize deductions) may elect to take a deduction rather than a credit for foreign taxes paid.

**Controlled Foreign Corporation**

For U.S. federal income tax purposes, a "controlled foreign corporation" is a foreign corporation in which U.S. holders who own at least 10% of the voting power (directly or by constructive ownership through certain related persons) collectively own more than 50% of the voting power or value. If we are or become a controlled foreign corporation, such 10% U.S. holders must include in their current U.S. taxable income their share of the corporation's undistributed "Subpart F income" (i.e., certain passive income, sales or service income, insurance, shipping, ocean activity, or oil-related income, and income from specified disfavored activities or from ostracized foreign countries) and the amount of the corporation's investments in U.S. property. These income inclusions are not eligible for the maximum capital gains tax rate on qualified dividends to non-corporate tax payers. We believe that the corporation is not and has not been, and we expect that the corporation will not become, a controlled foreign corporation. There can be no assurance, however, that the corporation will not become a controlled foreign corporation in the future.

**Passive Foreign Investment Company**

We believe that we were a "passive foreign investment company," or PFIC, for the years ended December 31, 2003, 2006, 2007, 2010, and 2011 (the "PFIC Years"). We nevertheless recognize that there are significant areas of uncertainty in the PFIC rules and the IRS may not agree with our belief. We are a PFIC if 75% or more of our gross income in a taxable year, including the pro rata share of the gross income of any company in which we are considered to own 25% or more of the shares by value, is passive income. Alternatively, we are a PFIC if at least 50% of our assets in a taxable year, averaged over the year and ordinarily determined based on fair market value, including the pro rata share of the assets of any company in which we are considered to own 25% or more of the shares by value, are held for the production of, or produce, passive income.

PFIC status is determined annually and cannot be definitively determined until the close of the year in question. If we qualify as a PFIC at any time during a U.S. holder's holding period of our ordinary shares, any subsequent distributions to, or disposition of the shares by, the U.S. holder will be subject to the excess distribution rules (described below), regardless of whether we are a PFIC in the year of distribution or disposition, unless the U.S. holder: (1) made the qualified electing fund ("QEF") election (described below); (2) made the mark-to-market election (described below); or (3) during a year in which the corporation is no longer a PFIC, elected to recognize all gain inherent in the shares on the last day of the last taxable year in which the corporation was a PFIC. If a U.S. holder holds our ordinary shares in a PFIC Year, such ordinary shares will henceforth be considered shares in a PFIC, regardless of whether we meet the PFIC tests in future years, unless the U.S. holder makes a timely QEF or mark-to-market election, or makes the deemed-gain election in a year in which the corporation is no longer a PFIC.

If we are a PFIC, each U.S. holder, upon certain "excess distributions" by us and upon disposition of our ordinary shares at a gain, would be liable to pay tax at the highest then-prevailing income tax rate on ordinary income plus interest on the tax, as if the distribution or gain had been recognized ratably over the holder's holding period for the ordinary shares. Additionally, if we are a PFIC, a U.S. holder who acquires ordinary shares from a deceased person who was a U.S. holder would not receive the step-up of the income tax basis to fair market value for such ordinary shares. Instead, such U.S. holder would have a tax basis equal to the deceased's tax basis, if lower.

If a U.S. holder has made a QEF election covering all taxable years during which the holder holds ordinary shares and in which we are a PFIC, distributions and gains will not be taxed as described above, nor will denial of a basis step-up at death described above apply. Instead, a U.S. holder that makes a QEF election is required for each taxable year to include in income the holder's pro rata share of the ordinary earnings of the QEF as ordinary income and a pro rata share of the net capital gain of the QEF as capital gain, regardless of whether such earnings or gain have in fact been distributed. Undistributed income is subject to a separate election to defer payment of taxes. If deferred, the taxes will be subject to an interest charge. Where earnings and profits that were included in income under this rule are later distributed, the distribution is not a dividend. The basis of a U.S. shareholder's shares in a QEF is increased by amounts that are included in income, and decreased by amounts distributed but not taxed as dividends. In addition, if a U.S. holder makes a timely QEF election, our ordinary shares will not be considered shares in a PFIC in years in which we are not a PFIC, even if the U.S. holder had held ordinary shares in prior years in which we were a PFIC.

In order to comply with the requirements of a QEF election, a U.S. holder must receive certain information from us. The QEF election is made on a shareholder-by-shareholder basis and can be revoked only with the consent of the IRS. A shareholder makes a QEF election by attaching a completed IRS Form 8621, including the information provided in the PFIC annual information statement, to a timely filed U.S. federal income tax return and by filing a copy of the form with the IRS. There is no assurance that we will provide such information as the IRS may require in order to enable U.S. holders to make the QEF election. Moreover, there is no assurance that we will have timely knowledge of our status as a PFIC in the future. Even if a shareholder in a PFIC does not make a QEF

election, if such shareholder is a U.S. holder, such shareholder must annually file with the shareholder's tax return and with the IRS a completed Form 8621.

If our ordinary shares are "regularly traded" on a "qualified exchange or other market," as provided in applicable Treasury Regulations, a U.S. holder of our shares may elect to mark the shares to market annually, recognizing as ordinary income or loss each year an amount equal to the difference between the shareholder's adjusted tax basis in such shares and their fair market value. Losses would be allowed only to the extent of net mark-to-market gain previously included by the U.S. holder under the election in previous taxable years. The adjusted tax basis of a U.S. holder's ordinary shares is increased by the amount included in gross income under the mark-to-market regime, or is decreased by the amount of the deduction allowed under the regime. As with the QEF election, a U.S. holder who makes a mark-to-market election would not be subject to the general excess distribution rules and the denial of basis step-up at death described above.

If we are a PFIC and, at any time, have a non-U.S. subsidiary that is classified as a PFIC, U.S. holders of our ordinary shares generally would be deemed to own, and also would be subject to the PFIC rules with respect to, their indirect ownership interests in that lower-tier PFIC. If we are a PFIC and a U.S. holder of our ordinary shares does not make a QEF election in respect of a lower-tier PFIC, the U.S. holder could incur liability for the deferred tax and interest charge described above if either (1) we receive a distribution from, or dispose of all or part of our interest in, the lower-tier PFIC or (2) the U.S. holder disposes of all or part of its ordinary shares. There is no assurance that any lower-tier PFIC will provide to a U.S. holder the information that may be required to make a QEF election with respect to the lower-tier PFIC. A mark-to-market election under the PFIC rules with respect to our ordinary shares would not apply to a lower-tier PFIC, and a U.S. holder would not be able to make such a mark-to-market election in respect of its indirect ownership interest in that lower-tier PFIC. Consequently, U.S. holders of our ordinary shares could be subject to the PFIC rules with respect to income of the lower-tier PFIC the value of which already had been taken into account indirectly via mark-to-market adjustments. Similarly, if a U.S. holder made a mark-to-market election under the PFIC rules in respect of our ordinary shares and made a QEF election in respect of a lower-tier PFIC, that U.S. holder could be subject to current taxation in respect of income from the lower-tier PFIC the value of which already had been taken into account indirectly via mark-to-market adjustments. U.S. holders are urged to consult their own tax advisors regarding the issues raised by lower-tier PFICs.

**THE RULES DEALING WITH PFICS AND WITH THE QEF AND MARK-TO-MARKET ELECTIONS ARE VERY COMPLEX AND ARE AFFECTED BY VARIOUS FACTORS IN ADDITION TO THOSE DESCRIBED ABOVE, INCLUDING OUR OWNERSHIP OF ANY NON-U.S. SUBSIDIARIES. AS A RESULT, U.S. HOLDERS OF ORDINARY SHARES ARE STRONGLY ENCOURAGED TO CONSULT THEIR TAX ADVISORS ABOUT THE PFIC RULES IN CONNECTION WITH THEIR PURCHASING, HOLDING OR DISPOSING OF ORDINARY SHARES.**

**Backup Withholding and Information Reporting**

A U.S. holder (excepting most corporations) may, under certain circumstances, be subject to information reporting requirements and backup withholding (currently at a rate of 28% but scheduled to increase to 31% after 2012) on payments of dividends, interest, and other reportable payments. A non-corporate U.S. holder should consult its own independent tax advisor regarding the possibility of information reporting and backup withholding on payments in connection with the purchase, ownership, or disposition of our ordinary shares.

**Foreign Account Tax Compliance Act**

The recently enacted Foreign Account Tax Compliance Act ("FATCA") will impose a 30% withholding tax on any "withholdable payment" to (i) a "foreign financial institution," unless such institution enters into an agreement with the U.S. government to collect and provide to the U.S. tax authorities substantial information regarding U.S. account holders of such institution (which would include certain equity and debt holders of such institution, as well as certain account holders that are foreign entities with United States owners) or (ii) a foreign entity that is not a financial institution, unless such entity provides the withholding agent with a certification identifying the substantial U.S. owners of the entity, which generally includes any U.S. person who directly or indirectly owns more than 10% of the entity. For this purpose, we expect to be treated as a foreign entity that is not a financial institution.

"Withholdable payments" to us subject to FATCA will include U.S.-source payments otherwise subject to nonresident withholding tax, and also include the entire gross proceeds from the sale of any equity or debt instruments of U.S. issuers (in either case to exclude payments made on "obligations" that were outstanding on March 18, 2012). The withholding tax will apply regardless of whether the payment would otherwise be exempt from U.S. nonresident withholding tax (e.g., under the portfolio interest exemption or as capital gain). The IRS is authorized to provide rules for implementing the FATCA withholding regime with the existing nonresident withholding tax rules.

Under Proposed Treasury Regulations, this withholding will apply to U.S.-source payments otherwise subject to nonresident withholding tax made on or after January 1, 2014 and to the payment of gross proceeds from the sale of any equity or debt instruments of U.S. issuers made on or after January 1, 2015.

We intend to, but provide no assurance that we will, provide information to the U.S. government sufficient to avoid FATCA withholding taxes on payments to us. U.S. holders are urged to consult with their tax advisors regarding the effect, if any, of FATCA to them based on their particular circumstances.

***F. DIVIDENDS AND PAYING AGENTS***

Not applicable.

### *G. STATEMENT BY EXPERTS*

Not applicable.

***H. DOCUMENTS ON DISPLAY***

We file annual and special reports and other information with the SEC. You may inspect and copy such material at the public reference facilities maintained by the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. You may also obtain copies of such material from the SEC at prescribed rates by writing to the SEC's Public Reference Room at 100 F Street, NE, Washington, D.C. 20549. Information on the operation of the Public Reference Room can be obtained by calling the SEC at 1-800-SEC-0330. Our SEC filings also are available to the public from the SEC's website at *www.sec.gov*. In addition, our annual and special reports and other information filed with the SEC is available free of charge through the Investors section of our website at *www.rosettagenomics.com* as soon as reasonably practicable after such materials have been electronically filed with, or furnished to, the SEC.

***I. SUBSIDIARY INFORMATION***

Not applicable.

**ITEM 11. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK**

**Interest Rate Risk**

We are exposed to market risk related to changes in interest rates primarily from our investments in certain short-term investments. We maintain an investment portfolio consisting mainly of Israeli mutual fund and Israeli government bonds, directly or through managed funds. We do not utilize derivative financial instruments, derivative commodity instruments or other market risk-sensitive instruments to manage exposure to interest rate changes. Accordingly, we believe that, while the securities we hold are subject to changes in the financial standing of the issuer of such securities, we are not subject to any material risks arising from changes in interest rates, foreign currency exchange rates, commodity prices, equity prices or other market changes that affect market risk sensitive instruments.

**Exchange Rate Risk**

We hold most of our cash, cash equivalents and marketable securities in U.S. dollars but incur a significant portion of our expenses, principally salaries and related personal expenses, in NIS. As a result, we are exposed to the risk that the U.S. dollar will be devalued against the NIS.

The following table illustrates the effect of the changes in exchange rates on our operation loss for the periods indicated:

| | Year ended December 31, | | | | | |
|---|---|---|---|---|---|---|
| | 2009 | | 2010 | | 2011 | |
| | Actual | At 2008 Exchange rates (1) | Actual | At 2009 Exchange rates (1) | Actual | At 2010 Exchange rates (1) |
| | (In thousands) | | | | | |
| Operating loss | $ 14,797 | $ 15,794 | $ 13,915 | $ 12,884 | $ 8,777 | $ 8,574 |

(1) Based on average exchange rates during the period.

**ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES**

Not applicable.

**PART II**

**ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES**

The information contained in the Forms 6-K filed with the SEC on November 23, 2011 (File No. 001-33042) and December 1, 2011 (File No. 001-33042; SEC Accession No. 0001144204-11-067917) is incorporated herein by reference. See also "Item 8. Financial Information – Legal Proceedings."

## ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS

**Material Modifications to the Rights of Security Holders**

Upon completion of our initial public offering in March 2007, all of our outstanding preferred shares and ordinary A shares were converted into ordinary shares. On October 21, 2010, our shareholders approved amendments to our articles of association to (i) increase our authorized share capital by NIS 300,000 and (ii) remove the requirement that notice of general meetings of our shareholders be published in two daily newspapers in Israel. On July 6, 2011, our shareholders approved an increase to our authorized share capital by NIS 216 to NIS 576,000, divided into 57,600,000 ordinary shares with a nominal (par) value of NIS 0.01 each (prior to giving effect to the 1-for-4 reverse stock split effected on July 6, 2011), and the 1-for-4 reverse stock split effected by the consolidation of our authorized share capital into 14,400,000 ordinary shares with a nominal (par) value of NIS 0.04 each, by consolidating every four (4) ordinary shares with a nominal (par) value NIS 0.01 each into one (1) ordinary share with a nominal (par) value of NIS 0.04 each. Following these actions our registered (authorized) share capital was NIS 576,000 divided into 14,400,000 ordinary shares with a nominal (par) value of NIS 0.04 each. On July 6, 2011, our shareholders subsequently approved an increase to our registered (authorized) share capital by NIS 624,000, divided into 15,600,000 ordinary shares, nominal (par) value NIS 0.04 each, so that following such increase, the registered (authorized) share capital was NIS 1,200,000 divided into 30,000,000, ordinary shares nominal (par) value NIS 0.04 each.

The material provisions of our articles of association, as amended, are described under "Item 10. Additional Information — B. Memorandum and Articles of Association."

**Use of Proceeds**

Not applicable.

## ITEM 15. CONTROLS AND PROCEDURES

### *A. DISCLOSURE CONTROLS AND PROCEDURES*

Our principal executive officer and principal financial officer, have evaluated the effectiveness of our disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) as of the end of the period covered by this Annual Report on Form 20-F to ensure that information required to be disclosed by us in the reports that we file or submit under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC's rules and forms, and is accumulated and communicated to our management, including our principal executive and principal financial officers, or persons performing similar functions, as appropriate to allow timely decisions regarding required disclosure. Our principal executive officer and principal financial officer, after evaluating the effectiveness of our disclosure controls and procedures as of the end of the period covered by this Annual Report on Form 20-F, or the evaluation date, have concluded that as of the evaluation date, our disclosure controls and procedures were not effective due to a material weakness in our internal control over financial reporting as discussed below.

### *B. MANAGEMENT'S ANNUAL REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING*

Our management is responsible for establishing and maintaining adequate internal control over financial reporting as defined in Rules 13a-15(f) and 15d-15(f) under the Securities Exchange Act of 1934, as amended. Our internal control system was designed to provide reasonable assurance to our management and board of directors regarding the preparation and fair presentation of published financial statements. Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate. Our management assessed the effectiveness of our internal control over financial reporting as of December 31, 2011. In making this assessment, it used the criteria set forth by the Committee of Sponsoring Organizations of the Treadway Commission (COSO) in Internal Control-Integrated Framework. As a result of its assessment, management identified a material weakness in our internal control over financial reporting as of December 31, 2011. Based on the material weakness identified as described below, management concluded that our internal control over financial reporting was not effective as of December 31, 2011. A material weakness is a control deficiency, or combination of control deficiencies, that results in more than a remote likelihood that a material misstatement of the annual or interim consolidated financial statements will not be prevented or detected. As a result of our assessment, we have identified the following material weakness in our internal control over financial reporting as of December 31, 2011:

- *Lack of management and Audit Committee oversight and evaluation of internal controls over financial reporting*. Preparations for the implementation of the internal control and evaluation of the internal controls over financials reporting effectiveness, required under Section 404 of the Sarbanes-Oxley Act of 2002 for the year 2011, were begun later than appropriate. Therefore, we were not able to perform sufficient testing to conclude as to the operating effectiveness of those controls over financial reporting for the year ended December 31, 2011. Furthermore, inadequate resources were allocated for this matter during the year, and the examinations of the effectiveness of controls were made only after the end of the reported year.

  Management has implemented remedial measures to address these matters, but these remediation efforts are not yet completed. Such measures include taking actions to further review the design and effectiveness of our internal controls over financial reporting and to perform sufficient testing to determine the operating effectiveness of those controls over financial reporting for the year ended December 31, 2012. We believe that these corrective actions will remediate the internal control deficiency identified, but we will continue to monitor the effectiveness of these actions and will make any other changes or take such other actions as management determines to be appropriate.

### *C. ATTESTATION REPORT OF THE REGISTERED PUBLIC ACCOUNTING FIRM*

This Annual Report on Form 20-F does not include an attestation report of our registered public accounting firm regarding internal control over financial reporting. Because we are neither an accelerated filer nor a large accelerated filer, management's report was not subject to attestation by our registered public accounting firm pursuant to the rules of the SEC.

### *D. CHANGES IN INTERNAL CONTROL OVER FINANCIAL REPORTING*

Except for the remedial measures described above, there were no changes in our internal control over financial reporting, identified in connection with the evaluation of such internal control that occurred during the last fiscal year, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

## ITEM 16. RESERVED

## ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT

Our audit committee consists of Gerald Dogon (Chairman), Dr. David Sidransky and Tali Yaron-Eldar, all of whom are independent under the rules and regulations of NASDAQ. Our board of directors has determined that Mr. Dogon qualifies as an "audit committee financial expert" as defined in the instructions to Item 16A of Form 20-F.

## ITEM 16B. CODE OF ETHICS

We have adopted a code of conduct and ethics that applies to all of our employees, officers and directors. The text of the code of conduct and ethics is posted on the "Corporate Governance" section of our website at *www.rosettagenomics.com*. Disclosure regarding any amendments to, or waivers from, provisions of the code of conduct and ethics that apply to our directors, principal executive and financial and accounting officers will be included in a Form 6-K within four business days following the date of the amendment or waiver, unless website posting of such amendments or waivers is then permitted by the rules of The NASDAQ Stock Market.

## ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES

**Accounting Fees and Services**

The following table presents fees for professional audit services rendered by Kost Forer Gabbay & Kasierer, a member of Ernst & Young Global, independent registered public accountants, for the audit of our consolidated financial statements and services normally provided by the independent auditor in connection with statutory and regulatory filings or engagements for the years ended December 31, 2011 and December 31, 2010 and fees billed for other services rendered by Kost Forer Gabbay & Kasierer during those periods.

| | 2011 | 2010 |
|---|---|---|
| Audit fees (1) | $ 88,706 | $ 104,000 |
| Audit-related fees | 28,000 | 30,000 |
| Tax fees (2) | 15,257 | 10,000 |
| All other fees (3) | - | - |
| Total | $ 131,963 | $ 144,000 |

(1) Audit services were comprised of services associated with the audit of our consolidated financial statements and services normally provided by the independent auditor in connection with statutory and regulatory filings or engagements and registration statements.
(2) Tax services were comprised of tax compliance, tax advice and tax planning services.
(3) All other services were comprised of business related consultation.

**Policy on Audit Committee Pre-Approval of Audit and Permissible Non-audit Services of Independent Auditors**

Our audit committee was established effective upon the completion of our initial public offering in March 2007. Consistent with policies of the Securities and Exchange Commission regarding auditor independence, the audit committee has responsibility for appointing, setting compensation and overseeing the work of the independent auditor. The audit committee operates under a written

charter which provides that the committee must approve in advance all audit services and all permitted non-audit services, except where such services are determined to be de minimis under the Exchange Act. The audit committee may delegate, to one or more designated members of the audit committee, the authority to grant such pre-approvals. The decision of any member to whom such authority is delegated is to be presented to the full audit committee at each of its scheduled meetings.

**ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES**

Not applicable.

**ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS**

Not applicable.

**ITEM 16F. CHANGE IN REGISTRANT'S CERTIFYING ACCOUNTANT**

Not applicable.

**ITEM 16G. CORPORATE GOVERNANCE**

There are no significant differences between our corporate governance practices and those required of a U.S. domestic issuer under the rules of The NASDAQ Stock Market. However, pursuant to the rules and regulations of The NASDAQ Stock Market, a foreign private issuer may follow its home country practice in lieu of certain NASDAQ listing requirements. We have in the past elected to follow home country practice in lieu of certain NASDAQ requirements as follows:

- NASDAQ rules require that the quorum for meetings of a company's shareholders be not less than 33 1/3% of the outstanding voting stock of the company. We have, however, chosen to follow home country practice with respect to shareholder meeting quorum and our Articles provide that the quorum required for any meeting of our shareholders shall consist of at least two shareholders present, in person or by proxy, who hold or represent between them more than 25% of the voting power of our issued share capital.

- Under NASDAQ's rules, (1) the private placement completed in December 2010, (2) the concurrent private placement and registered direct offering completed in February 2011, (3) the private placement completed in October 2011 and (4) the convertible debt transaction completed in January 2012, would have required shareholder approval because these offerings represented the issuance (or potential issuance) of more than 20% of our outstanding ordinary shares at a price per share below the greater of book value per share or market value per share. However, we chose to follow our home country practice, which did not require shareholder approval of these offerings.

Because of these SEC and NASDAQ exemptions, investors are not afforded the same protections or information generally available to investors holding shares in public companies organized in the United States. See also "Item 3. Key Information — D. Risk Factors — Risks Related to Israeli Law and Our Operations in Israel — Being a foreign private issuer exempts us from certain SEC and NASDAQ requirements."

**ITEM 16H. MINE SAFETY DISCLOSURE**

Not applicable.

**PART III**

**ITEM 17. FINANCIAL STATEMENTS**

See Item 18.

**ITEM 18. FINANCIAL STATEMENTS**

Our consolidated financial statements and related notes are included in this Annual Report beginning on page F-1.

**ITEM 19. EXHIBITS**

The following is a list of exhibits filed as part of this Annual Report.

| Exhibit Number | Description of Exhibit |
|---|---|
| 1.1(15) | Amended and Restated Ar |
| 2.1(1) | Form of Share Certificate f |
| 2.2(1) | Investor Rights Agreement |
| 2.3(7) | Form of Ordinary Share Pu in the January 2010 registe |
| 2.4(5) | Convertible Note Agreeme identified in the Schedule |
| 2.5(9) | Form of Series A Warrant 2010 private placement. |
| 2.6(9) | Form of Series B Warrant |
| 2.7(9) | Registration Rights Agree in the December 2010 priv |
| 2.8(10) | Form of Ordinary Share P in the February 2011 priva |
| 2.9(10) | Form of Ordinary Share P registered direct offering. |
| 2.10(10) | Form of Ordinary Share P 2011 registered direct offe |
| 2.11(10) | Registration Rights Agree the February 2011 private |
| 2.12(12) | Form of Series A Warrant 2011 private placement. |
| 2.13(12) | Form of Series B Warrant |
| 2.14(12) | Registration Rights Agree the October 2011 private p |
| 2.15* | Secured Loan Agreement, January 2012 debt financi |
| 2.15.1(14) | Form of $1.75 million seni |
| 2.15.2* | Security Interest Agreeme |
| 4.1(1)@ | License Agreement, dated |
| 4.2(2)@ | License Agreement, dated University. |
| 4.3(1) | Lease Agreement, dated A and Investments (1963) Lt April 9, 2006 (as translate |
| 4.4(3) | Lease, dated December 2, |
| 4.5(5) | Lease Agreement from W thereto, dated August 11, 2 |
| 4.6(1) | 2003 Israeli Share Option |
| 4.7(13) | 2006 Employee Incentive |
| 4.8(1) | Form of Director and Offi |
| 4.9(6)@ | Amended and Restated Li Max Planck Innovation Gm |
| 4.10*@ | Amended and Restated Li and Rosetta Genomics Ltd |
| 4.11(1)@ | License Agreement, date Innovation GmbH. |
| 4.12(1)@ | Cooperation and Project F Ltd., the Israel-United Sta Inc. |

| | |
|---|---|
| 4.13(3)@ | License Agreement, date<br>Rockefeller University. |
| 4.14(5)@ | Exclusive Testing and Adı<br>Industries Ltd. |

4.14.1*

4.15(13)

4.16(13)

4.16.1(13)

4.16.2(13)

4.17(16)

4.18*@
8.1*
12.1*
12.2*
13.1*

15.1*

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(1) Incorporated by reference from the Registrant's Registration Statement on Form F-1 (Reg. No. 333-137095), initially filed with the SEC on September 1, 2006.
(2) Incorporated by reference from the Registrant's Form 6-K dated August 2, 2007 (Reg. No. 001-33042), filed with the SEC on August 3, 2007.
(3) Incorporated by reference from the Registrant's Annual Report on Form 20-F for the year ended December 31, 2007 (Reg. No. 001-33042), filed with the SEC on June 26, 2008.
(4) Incorporated by reference from the Registrant's Form 6-K dated April 2009 (Reg. No. 001-33042), filed with the SEC on April 14, 2009.
(5) Incorporated by reference from the Registrant's Annual Report on Form 20-F for the year ended December 31, 2008 (Reg. No. 001-33042), filed with the SEC on June 30, 2009.
(6) Incorporated by reference from the Registrant's Form 6-K dated August-September 2009 (Reg. No. 001-33042), filed with the SEC on September 9, 2009.
(7) Incorporated by reference from the Registrant's Form 6-K dated January 2010 (Reg. No. 001-33042), filed with the SEC on January 14, 2010.
(8) Incorporated by reference from the Registrant's Form 6-K/A dated January 2011 (Reg. No. 001-33042), filed with the SEC on January 24, 2011.
(9) Incorporated by reference from the Registrant's Form 6-K dated November 2010 (Reg. No. 001-33042), filed with the SEC on November 30, 2010.
(10) Incorporated by reference from the Registrant's Form 6-K dated February 2011 (Reg. No. 001-33042), filed with the SEC on February 18, 2011.
(11) Incorporated by reference from the Registrant's Annual Report on Form 20-F for the year ended December 31, 2009 (Reg. No. 001-33042), filed with the SEC on March 26, 2010.
(12) Incorporated by reference from the Registrant's Form 6-K dated October 2011 (Reg. No. 001-33042), filed with the SEC on October 14, 2011.
(13) Incorporated by reference from the Registrant's Annual Report on Form 20-F for the year ended December 31, 2010 (Reg. No. 001-33042), filed with the SEC on March 31, 2011.
(14) Incorporated by reference from the Registrant's Form 6-K dated January 2012 (Reg. No. 001-33042), filed with the SEC on January 30, 2012.
(15) Incorporated by reference from the Registrant's Form 6-K dated July 2011 (Reg. No. 001-33042), filed with the SEC on July 6, 2011.
(16) Incorporated by reference from the Registrant's Form 6-K dated December 2011 (Reg. No. 001-33042), filed with the SEC on December 19, 2011.
* Filed herewith.
@ Confidential portions of these documents have been filed separately with the SEC pursuant to a request for confidential treatment.

**SIGNATURE**

The registrant hereby certifies that it meets all of the requirements for filing on Form 20-F and that it has duly caused and authorized the undersigned to sign this annual report on its behalf.

ROSETTA GENOMICS LTD.

Dated: April 2, 2012

By: /s/ Kenneth A. Berlin
Kenneth A. Berlin, Chief Executive Officer and President

**ROSETTA GENOMICS LTD. AND ITS SUBSIDIARY**

**CONSOLIDATED FINANCIAL STATEMENTS**

**AS OF DECEMBER 31, 2011**

**U.S. DOLLARS IN THOUSANDS**

**INDEX**

**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

**To the Board of Directors and Shareholders of**

**ROSETTA GENOMICS LTD.**

We have audited the accompanying consolidated balance sheets of Rosetta Genomics Ltd. ("the Company") and its subsidiary as of December 31, 2011 and 2010, and the related consolidated statements of operations, changes in shareholders deficiency and cash flows for each of the three years in the period ended December 31, 2011. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatements. We were not engaged to perform an audit of the Company's and its subsidiary internal control over financial reporting. Our audits included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances but not for the purpose of expressing an opinion on the effectiveness of the Company's and its subsidiary internal control over financial reporting. Accordingly, we express no such opinion. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, based on our audits, the consolidated financial statements referred to above, present fairly, in all material respects, the consolidated financial position of the Company and its subsidiary as of December 31, 2011 and 2010, and the consolidated results of their operations and cash flows for each of the three years in the period ended December 31, 2011, in conformity with accounting principles generally accepted in the United States.

The accompanying consolidated financial statements have been prepared assuming that the Company will continue as a going concern. As more fully described in Note 1d, the Company has incurred recurring operating losses and generated negative cash flows from operating activities in each of the three years in the period ended December 31, 2011. Its ability to continue to operate is dependent upon obtaining additional financial support. These conditions, among other matters described in Note 1d, raise substantial doubt about the Company's ability to continue as a going concern. The financial statements do not include any adjustments to reflect the possible future effects on the recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

Tel-Aviv, Israel
April 2, 2012

KOST FORER GABBAY & KASIERER
A Member of Ernst & Young Global

**CONSOLIDATED BALANCE SHEETS**

**U.S. dollars in thousands**

| | Note | 2 |
|---|---|---|
| ASSETS | | |
| CURRENT ASSETS: | | |
| Cash and cash equivalents | | $ |
| Restricted cash | 9a | |
| Short-term bank deposit | 4 | |
| Marketable securities | 5 | |
| Trade receivables | | |
| Other accounts receivable and prepaid expenses | 6 | |
| Current assets of discontinued operations | 1c,l,e | |
| Total current assets | | |
| LONG TERM ASSETS: | | |
| Long-term receivables | 1g | |
| Severance pay fund | | |
| Property and equipment, net | 7 | |
| Long-term asset of discontinued operations | 1, | |
| Total long term assets | | |
| Total assets | | $ |

The accompanying notes are an integral part of the consolidated financial statements.

**CONSOLIDATED BALANCE SHEETS**

**U.S. dollars in thousands (except share and per share data)**

| | Note | December 31, 2011 | December 31, 2010 |
|---|---|---|---|
| LIABILITIES AND SHAREHOLDERS' DEFICIENCY | | | |
| CURRENT LIABILITIES: | | | |
| Trade payables | | $ 584 | $ 1,102 |
| Other accounts payable and accruals | 8 | 1,264 | 2,057 |
| Liabilities of discontinued operations | 1c | - | 172 |
| Total current liabilities | | 1,848 | 3,331 |
| LONG-TERM LIABILITIES: | | | |
| Warrants related to share purchase agreements | 10 | 165 | 1,479 |
| Deferred revenue | | 228 | 228 |
| Settlement arrangement | 9m | - | 728 |
| Accrued severance pay | | 159 | 157 |
| Total long-term liabilities | | 552 | 2,592 |
| COMMITMENTS AND CONTINGENT LIABILITIES | 9 | | |
| SHAREHOLDERS DEFICIENCY: | | | |
| Share capital: | 10 | | |
| Ordinary shares of NIS 0.04 par value: 30,000,000 and 14,394,593 shares authorized at December 31, 2011 and 2010, respectively; 10,567,330 and 4,900,159 shares issued at December 31, 2011 and 2010, respectively; 10,518,487 and 4,851,316 shares outstanding at December 31, 2011 and 2010, respectively | | 108 | 46 |
| Additional paid-in capital | | 84,581 | 74,732 |
| Other comprehensive income | | - | 7 |
| Accumulated deficit | | (85,045) | (76,215) |
| Total Rosetta Genomics shareholders' deficiency | | (356) | (1,430) |
| Non-controlling interests | | - | 800 |
| Total shareholders' deficiency | | (356) | (630) |
| Total liabilities and shareholders' deficiency | | $ 2,044 | $ 5,293 |

The accompanying notes are an integral part of the consolidated financial statements.

## CONSOLIDATED STATEMENTS OF OPERATIONS

**U.S. dollars in thousands (except share and per share data)**

| | Note | Year ended December 31, 2011 | 2010 | 2009 |
|---|---|---|---|---|
| Revenues | | $ 103 | $ 279 | $ 150 |
| Cost of revenues | | 324 | 628 | 339 |
| Gross loss | | 221 | 349 | 189 |
| Operating expenses: | | | | |
| Research and development, net | | 3,386 | 5,707 | 6,552 |
| Marketing and business development | | 2,633 | 4,881 | 4,451 |
| General and administrative | | 2,537 | 2,424 | 3,605 |
| Other expenses related to the settlement arrangement, net | 9m | - | 554 | - |
| Total operating expenses | | 8,556 | 13,566 | 14,608 |
| Operating loss | | 8,777 | 13,915 | 14,797 |
| Financial income, net | 12 | (1,391) | (1,031) | (45) |
| Loss from continuing operations | | 7,386 | 12,884 | 14,752 |
| Net loss from discontinued operations | 1e, 2i | 1,444 | 1,871 | 1,753 |
| Net loss after discontinued operations | | $ 8,830 | $ 14,755 | $ 16,505 |
| Basic and diluted net loss per Ordinary share from continuing operations | | $ 0.97 | $ 3.05 | $ 4.36 |
| Basic and diluted net loss per Ordinary share from discontinuing operations | | $ 0.19 | $ 0.44 | $ 0.52 |
| Basic and diluted net loss per Ordinary share | | $ 1.16 | $ 3.49 | $ 4.88 |
| Weighted average number of Ordinary shares used to compute basic and diluted net loss per Ordinary share | | 7,614,325 | 4,227,022 | 3,385,831 |

The accompanying notes are an integral part of the consolidated financial statements.

## STATEMENTS OF CHANGES IN EQUITY (DEFICIENCY)

**U.S. dollars in thousands (except share data)**

| | Number of Ordinary shares | Share capital | |
|---|---|---|---|
| Balance as of January 1, 2009 | 3,043,063 | $ 27 | $ |
| Exercise of stock options | 628 | (*) | |
| Issuance of shares in April 2009, net of issuance expenses in an amount of $570 | 500,000 | 5 | |
| Stock-based compensation to non-employees | - | - | |
| Stock-based compensation to employees | 16,250 | - | |
| Unrealized gain from marketable securities | - | - | |
| Net loss | - | - | |
| Balance as of December 31, 2009 | 3,559,941 | 32 | |
| Exercise of stock options | 31,624 | (*) | |
| Issuance of restricted shares | 2,250 | (*) | |
| Issuance of shares in January 2010, net of $301 issuance cost | 632,500 | 7 | |
| Issuance of shares in December 2010, net of $145 issuance cost | 625,000 | 7 | |
| Conversion of convertible note related to Rosetta Green establishment | - | - | |
| Stock-based compensation to non-employees | - | - | |
| Stock-based compensation to employees | - | - | |
| Unrealized loss from marketable securities, net of realized gain | - | - | |
| Net loss | - | - | |
| Balance as of December 31, 2010 | 4,851,315 | 46 | |
| Issuance of restricted shares | 1,250 | (*) | |
| Issuance of shares in February and October 2011, net of $541 and $70 issuance cost, respectively | 4,525,086 | 50 | |
| Conversion of Warrants in February and November 2011 | 1,140,836 | 12 | |
| Stock-based compensation to non-employees | - | - | |
| Stock-based compensation to employees | - | - | |
| Decrease in holdings in Rosetta Green as a result of its IPO | - | - | |
| Unrealized loss from marketable securities, net of realized gain | - | - | |
| Loss of control in Rosetta Green shares in December 2011 | - | - | |
| Net loss | - | - | |
| Balance as of December 31, 2011 | 10,518,487 | $ 108 | $ |

Accumulated other comprehensive income

| | Year ended December 3 | |
|---|---|---|
| | 2011 | 2010 |
| Accumulated unrealized gains from available-for-sale marketable securities | $ - | $ |

(*) Represents an amount lower than $1

The accompanying notes are an integral part of the consolidated financial statements.

## CONSOLIDATED STATEMENTS OF CASH FLOWS

**U.S. dollars in thousands**

| | Year ended December 31, | | |
|---|---|---|---|
| | 2011 | 2010 | 2009 |
| Cash flows from operating activities: | | | |
| Net loss | $ (10,103) | $ (15,142) | $ (16,505) |
| Loss from discontinued operations | 2,676 | 926 | 1,753 |
| Loss from continuing operations | (7,427) | (14,216) | (14,752) |
| Adjustments to reconcile net loss to net cash used in operating activities: | | | |
| Depreciation | 454 | 415 | 344 |
| Foreign currency adjustments | 8 | 16 | 8 |
| Interest on short-term bank deposit | - | - | (28) |
| Capital loss from sale of property and equipment | 15 | (3) | 4 |
| Increase (decrease) in accrued severance pay, net | (8) | 11 | (359) |
| Stock-based compensation to employees | 603 | 737 | 1,372 |
| Compensation related to shares and warrants granted to non-employees | 1 | 19 | 52 |
| Gain from marketable securities | (7) | (125) | (31) |
| Decrease (Increase) in trade receivables | 9 | 51 | (72) |
| Decrease (increase) in other accounts receivable and prepaid expenses | (68) | 57 | (769) |
| Increase (decrease) in trade payables | (516) | 498 | (10) |
| Increase (decrease) in other accounts payable and accruals | (1,502) | 1,229 | 312 |
| Loss from Rosetta Green's sale | 41 | - | - |
| Adjustment for settlement arrangement | - | 94 | - |
| Increase in deferred revenue | - | (1,700) | 1,700 |
| Revaluation of warrants related to share purchase agreements | (1,640) | (1,072) | - |
| Net cash used in operating activities from continuing operations | (10,037) | (13,989) | (12,229) |
| Net cash provided by (used in) operating activities from discontinued operations | (1,224) | 268 | 458 |
| Net cash used in operating activities | (11,261) | (13,721) | (11,771) |
| Cash flows from investing activities: | | | |
| Purchase of property and equipment | (11) | (425) | (199) |
| Proceeds from sale of property and equipment | 168 | 7 | 1 |
| Decrease (increase) in bank deposits | 78 | 2,952 | (2,275) |
| Purchase of marketable securities | - | (1,489) | (4,497) |
| Proceeds and redemption from sale of marketable securities | 148 | 3,889 | 2,291 |
| Decrease (Increase) in restricted cash | (37) | 1,076 | (433) |
| Proceeds from sale of Parkway | - | 148 | (35) |
| Proceeds from sale of Rosetta Green | 814 | - | - |
| Net cash provided by (used in) investing activities from continuing operations | 1,160 | 6,158 | (5,147) |
| Net cash used in investing activities from discontinued operations | (3,687) | (15) | (12) |
| Net cash provided by (used in) in investing activities | (2,527) | 6,143 | (5,159) |

The accompanying notes are an integral part of the consolidated financial statements.

**CONSOLIDATED STATEMENTS OF CASH FLOWS**

**U.S. dollars in thousands**

| | Year ended December 31, | | |
|---|---|---|---|
| | **2011** | **2010** | **2009** |
| Cash flows from financing activities: | | | |
| Repayment of capital lease | $ (70) | $ (142) | $ (119) |
| Receipt of long-term bank loan and capital lease | - | 5 | 73 |
| Repayment of long-term bank loan | - | - | (10) |
| Proceeds from convertible loans | - | - | 750 |
| Issuance of shares and warrants, net | 9,634 | 7,113 | 5,730 |
| Net cash provided by financing activities from continuing operations | 9,564 | 6,976 | 6,424 |
| Net cash provided by financing activities from discontinued operations | 2,232 | - | 24 |
| Net cash provided by financing activities | 11,796 | 6,976 | 6,448 |
| Increase (decrease) in cash and cash equivalents | (1,992) | (602) | (10,482) |
| Cash and cash equivalents at beginning of year | 2,727(*) | 3,329 | 13,811(*) |
| Cash and cash equivalents at end of year | $ 735 | $ 2,727(*) | $ 3,329 |
| Supplemental disclosure: | | | |
| Cash paid during the year for: | | | |
| Interest | | $ 380 | $ |
| Non-cash activities: | | | |
| Conversion of convertible notes into RG Ordinary shares | | $ - | $ |
| Conversion of Warrants | | $ 729 | $ |

(*) Includes cash and cash equivalents of discontinued operations of $84, 92 at December 31, 2008 and 2010 respectively.

The accompanying notes are an integral part of the consolidated financial statements.

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

**U.S. dollars in thousands (except share and per share data)**

**NOTE 1:- GENERAL**

a.

b.

c.

On September 24, 2008, t
Purchasers") in an initiative
note was for the purpose of
subsidiary to be named RG.
of $1,500. The notes were co
established, reflecting a fully

On February 4, 2010, the Co
leverage capabilities into the
to develop plants and algae
advanced agriculture.

RG was formed to translate
of cleantech and plant biotec
improved agricultural crops
traits. RG has developed te
microRNA genes possess th
soybean, among other crops.
drought tolerance, increased
the biofuel industry. The pla
algae.

**NOTE 1:- GENERAL (Cont.)**

Upon RG establishment, and
were converted into RG Ordi

On November 18, 2010, the C
assigned certain patents relati
license to some of the Com
certain consideration derived

On February 17, 2011, RG co
shares started trading on the
proceeds of $6,060 in the IPO
50.03% ownership position i
amounted to $5,078.

On December 16, 2011, the C
ordinary shares of RG to cert
Transfer Agreement, dated D

Under the terms of the share
ordinary shares. In addition,
acquired within three years fr
RG valuation of at least $90,0
is remote.

Since RG was consolidated p
therefore, the results of oper
operations loss in the statem
addition, the comparative dat
to discontinued operations in

As a result of the sale of RG
assets and liabilities of discon

U.S. dollars in thousands (except share and per share data)

**NOTE 1:- GENERAL (Cont.)**

| | December 31, 2010 |
|---|---|
| ASSETS | |
| Cash and cash equivalents | $ 92 |
| Marketable securities | 244 |
| Other accounts receivable and prepaid expenses | 209 |
| Severance pay fund | 5 |
| Property and equipment, net | 46 |
| Total assets | $ 596 |
| LIABILITIES | |
| Current maturities of capital lease | $ - |
| Trade payables | 50 |
| Other accounts payable and accruals | 109 |
| Accrued severance pay | 13 |
| Total liabilities | $ 172 |

Net loss from discontinued operations related to RG for the years ended 2011, 2010 and 2009 are as follows:

| | Year ended December 31, | | |
|---|---|---|---|
| | 2011 | 2010 | 2009 |
| Operating expenses: | | | |
| Research and development, net | $ 1,284 | $ 779 | $ - |
| Business and development | 399 | 521 | - |
| General and administrative | 907 | 443 | - |
| Total operating expenses | 2,590 | 1,743 | - |
| Operating loss | 2,590 | 1,743 | - |
| Financial expense(income), net | 26 | (24) | - |
| Net loss | $ 2,616 | $ 1,719 | $ - |

**NOTE 1:- GENERAL (Cont.)**

d. The Company incurred an accumulated deficit of approximately $85,045 since inception, and incurred recurring operating losses and negative cash flows from operating activities in each of the three years in the period ended December 31, 2011. As of December 31, 2011 the Company deficit in working capital and deficit in equity were in amount of $638 and $356, respectively. The Company will have to obtain additional capital resources to maintain its commercialization, research and development activities beyond December 31, 2012.

The Company is addressing its liquidity issues by seeking additional fund raisings and implementing initiatives to allow covering of its anticipated budget deficit for 2012. During 2011 the company performed costs reduction measures that reduced its research and development activities and manpower.

Subsequent to the balance sheet date, the Company obtained additional financing in the amount of $1,750 in senior secured debentures, as described in more detail in Note 14.

There are no assurances, however, that the Company will be successful in obtaining an adequate level of financing needed for the long-term development and commercialization of its products.

These conditions raise substantial doubt about the Company's ability to continue as a going concern. The accompanying financial statements do not include any adjustments to reflect the possible future effects on recoverability and classification of assets or the amounts and classification of liabilities that may result from the outcome of this uncertainty.

**NOTE 1:- GENERAL (Cont.)**

e. Parkway Clinical Laboratories, Inc. ("Parkway"):

Parkway was a national, full-service Clinical Laboratories Improvement Amendments ("CLIA") certified clinical laboratory service that was owned by the Company. Parkway specializes in oral drug screening in the workplace environment and genetics testing services.

On May 18, 2009, the Company sold Parkway, in a management buy-out for up to a maximum amount of $2,500, to be paid as a fixed percentage of revenues (15%) over six years and minimum price of $750. According to ASC 810, "Consolidation", the Company calculated the fair value of future consideration by using discounted estimate of future cash receipt. As a result of the transaction, the controlling interests in Parkway were transferred to the buyer, as well as all the risks. Accordingly, the Company has no future liabilities or obligation related to Parkway. As of the transaction date, the fair value of the estimated future consideration was $759. During the years ended December 31, 2011, 2010 and 2009, the Company received an amount of $0, $148 and $49, respectively, in respect of this consideration.

As of December 31, 2011 and 2010, the Company revalued the fair value of the estimated future consideration to $125 and $171, respectively, out of which $17 and $30 is recorded as short-term other accounts receivable as of December 31, 2011 and 2010, respectively, and $108 and $141 is recorded as long-term other accounts receivable as of December 31, 2011 and 2010, respectively.

The sale of Parkway met the criteria for reporting as discontinued operations and, therefore, the results of operations of the business and the loss on the sale have been classified as discontinued operations in the statement of operations and prior periods results have been reclassified accordingly. In addition, the comparative data of the assets and liabilities have been reclassified as assets and liabilities attributed to discontinued operations in the balance sheets, as described in more detail in Note 2i.

As a result of the fair value update of the estimated future consideration, the Company recorded a loss of $60, which was attributed to discontinued operations, and an amount of $14 was attributed to financial income in the year ended December 31, 2011.

**NOTE 1:- GENERAL (Cont.)**

f. Prometheus Laboratories Inc.:

1. License and collaboration agreement with Prometheus:

On April 10, 2009, the Company entered into a license and collaboration agreement ("the License Agreement") and a laboratory services agreement ("the Services Agreement") with Prometheus Laboratories Inc. ("PL" or "Prometheus") under which the Company agreed to exclusively license and sublicense to PL certain rights related to the Company's microRNA-based cancer diagnostic tests: miRview®mets, miRview® squamous and miRview® meso ("Cancer Diagnostics Products"), including the rights to certain software developed by the Company and related to the miRview® mets product. The Company also agreed to collaborate with Prometheus in order to further develop the Cancer Diagnostics Products and to develop two new microRNA-based gastroenterology tests ("GI Products"). Under the License Agreement, PL had the exclusive right to develop and commercialize the Cancer Diagnostics Products and the GI Products in the U.S. The License Agreement also gave PL a right of first negotiation to take a license for certain diagnostic tests or products that are under development by the Company.

Under the provisions of the License Agreement, PL was to contribute to a development fund that was to be used to further develop the Cancer Diagnostic Products and to develop the GI Products. In addition, PL was to pay the Company additional amounts upon reaching certain publication requirements for the Cancer Diagnostic Products and achieving certain product profiles for the GI Products. The Company was also entitled to receive certain payments upon the achievement of commercial milestones.

The Company was also entitled to royalties according to the License Agreement on the sale of the Cancer Diagnostic Products and the GI Products, subject to reductions in certain instances.

Under the provisions of the Services Agreement, from the fees that the Company received from PL, in consideration for performing the services, the Company deducted the COGS, royalties to third parties, and the remaining amounts were transferred to a separate account ("Development Fund"). The amounts in the Development Fund were then to be used by the Company to develop improvements to the Company's products, according to an agreed upon development plan, with PL. The Company classified these amounts as restricted cash in its balance sheet.

The License Agreement and the Services Agreement were terminated on November 22, 2010 as part of a settlement agreement reached between Prometheus and the Company, as described in more detail in Note 9m.

**NOTE 1:- GENERAL (Cont.)**

2. Prometheus stock purchase agreement:

   On April 10, 2009, the Company entered into a stock purchase agreement with PL ("the Purchase Agreement"). Under the Purchase Agreement, on April 27, 2009 ("the closing date"), PL purchased 500,000 Ordinary shares of the Company ("the Shares") at a price of $16.00 per share in a private placement transaction. Under the terms of the Purchase Agreement, as long as PL or its affiliates continued to hold at least 50% of these Shares, PL was entitled to information rights, pre-emptive rights and board observer rights. Pursuant to the pre-emptive rights, PL had the right to participate in future offerings of the Company's securities to purchase up to its pro rata share in any such offering on the same terms and conditions as other investors.

   Certain provisions of this Purchase Agreement were terminated on November 22, 2010 as part of a settlement agreement reached between Prometheus and the Company, as described in more detail in Note 9m.

3. As a result of the stock Purchase Agreement and the license and collaboration agreement detailed above, the Company received $8,000 out of which an amount of $5,730 was recorded as shareholders' equity (net of issuance cost of $570) and $1,700 was recorded as deferred revenue. On November 22, 2010, the Company recognized the $1,700 deferred revenues in its statements of operations as part of a settlement agreement reached between Prometheus and the Company.

   The Services Agreement was terminated on November 22, 2010 as part of a settlement agreement reached between Prometheus and the Company, as described in more detail in Note 9m.

g. In October 2011, the Company entered into a license agreement with third party pursuant to which the Company granted the third party an exclusive right to market and perform the Company's miRview® mets and miRview® mets$^2$ tests in China. The third party will also have exclusive right to market and perform one additional test in China, to be selected by the third party within one year. However, as of March 1, 2012, the Company believes the third party is in breach of the license agreement and the Company is currently exploring its options due to this breach.

## NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES

The consolidated financial statements have been prepared in accordance with U.S. generally accepted accounting principles ("U.S. GAAP").

a. Use of estimates:

The preparation of financial statements, in conformity with U.S. GAAP, requires management to make estimates and assumptions that affect the amounts reported in the financial statements and accompanying notes. Actual results could differ from those estimates.

b. Financial statements in U.S. dollars:

The Company's financing activities are incurred in U.S. dollars. A portion of the Company's costs is incurred in U.S. dollars. The Company's management believes that the U.S. dollar is the primary currency of the economic environment in which the Company operates. Thus, the functional and reporting currency of the Company is the U.S. dollar.

Accordingly, monetary accounts maintained in currencies other than the dollar are remeasured into U.S. dollars in accordance with ASC830, "Foreign Currency Matters". All transaction gains and losses from the remeasurement of monetary balance sheet items are reflected in the statements of operations as financial income or expenses, as appropriate.

c. Principles of consolidation:

The consolidated financial statements include the accounts of the Company and its subsidiary. Intercompany transactions and balances have been eliminated upon consolidation.

d. Cash equivalents:

Cash equivalents include short-term highly liquid investments that are readily convertible to cash with original maturities of three months or less from time of deposit.

e. Short-term bank deposits:

Short-term bank deposits are deposits with maturities of more than three months but less than one year. The short-term deposits are presented at their cost.

f. Marketable securities:

The Company accounts for investments in debt securities and trust fund in accordance with ASC 320, "Investments-Debt and Equity Securities". Management determines the appropriate classification of its investments in debt securities and trust fund at the time of purchase and reevaluates such determination at each balance sheet date.

U.S. dollars in thousands (except share and per share data)

**NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

Investments in marketable securities are accounted for at fair value, based on quoted market prices, and classified as either trading securities or available-for-sale securities. For investments classified as trading securities, unrealized and realized gains and losses related to the investment and are recorded in earnings. For investments classified as available-for-sale securities, unrealized gains and losses are recorded in accumulated other comprehensive income, a separate component of shareholders' equity, realized gains and losses on sales of available-for-sale securities, as determined on a specific identification basis, are included in the consolidated statement of operations.

g. Property and equipment:

Property and equipment are stated at cost, net of accumulated depreciation. Depreciation is calculated by the straight-line method over the estimated useful lives of the assets.

The annual depreciation rates are as follows:

| | % |
|---|---|
| Computer equipment | 33 |
| Office furniture and laboratory equipment | 7 - 15 (mainl |
| Leasehold improvement | Over the shorter of the lease te life |

h. Impairment of long-lived assets:

The long-lived assets of the Company and its subsidiary and all identifiable intangible assets that are subject to amortization are reviewed for impairment in accordance with ASC 360-10-35, "Property, Plant and Equipment - Subsequent Measurement"/ ASC 250, "Presentation of Financial Statements", whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Recoverability of assets to be held and used is measured by a comparison of the carrying amount of an asset to the future undiscounted cash flows expected to be generated by the assets. If such assets are considered to be impaired, the impairment to be recognized is measured by the amount by which the carrying amount of the assets exceeds the fair value of the assets. As of December 31, 2011 and 2010, no impairment losses have been identified.

i. Discontinued operation:

According to ASC 360, "Property, Plant, and Equipment" and ASC 205, "Presentation of Financial Statements" when a component of an entity, as defined in ASC 360, has been disposed of, the results of its operations, including the gain or loss on its disposal should be classified as discontinued operations when the operations and cash flows of the component have been eliminated from the Company's consolidated operations and the Company will no longer have any significant continuing involvement in the operations of the component.

**NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

j. Revenue recognition:

The Company generates revenues from sells diagnostic kits to its private patient or third-party distributor. The Company provides laboratory services of testing the results in its lab in the U.S.

Revenues from sales of the Company's products are recognized in accordance with "Revenue Recognition in Financial Statements" ("ASC 605") when delivery of tests result has occurred, persuasive evidence of an agreement exists, the vendor's fee is fixed or determinable and no further obligation exists and collectability is probable. In arrangements, primarily with private patients, in which prior to delivery the patient's third-party insurance provider has not contractually set the sale prices, the Company does not recognize revenue until the fees are fixed and determinable and collectability assured.

In addition, in prior years, the Company generated revenues from collaboration research agreements under which the Company delivers novel product candidates and professional services and may receive future milestones and royalties on successful products.

Revenues from collaborative agreements consist primarily of royalty payments, payments for research and developmental services, up-front fees and milestone payments. If an arrangement requires the delivery or performance of multiple deliverables or service elements, the Company determines whether the individual elements represent "separate units of accounting" under the requirements of ASC 605-25 "Multiple-Element Arrangements".

If the separate elements meet the requirements of ASC 605-25, the Company recognizes the revenue associated with each element separately and revenue is allocated among elements based on relative fair value. If the elements within a multiple deliverable arrangement are not considered separate units of accounting, the delivery of an individual element is considered not to have occurred if there are undelivered elements that are considered essential to the arrangement. Revenue resulting from the achievement of contingent milestone events stipulated in the agreements is recognized when the milestone is achieved. Milestones are based upon the occurrence of a substantive element specified in the contract.

Royalties from licensing the right to use the Company's products are recognized when earned and when written sales confirmation from the licensee is received and no future obligation exists. Non-refundable, up front advancements of royalties from licensing the right to use the Company's products which are fully chargeable against royalties, are recorded as deferred revenue until the above mentioned criteria for recognizing revenue are met.

Deferred revenues represent payments received in advance, where revenue recognition criteria were not met. As of December 31, 2011, the Company has deferred revenue in an amount of $228.

**NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

k. Research and development expenses, net:

Research and development expenses include costs of salaries and related expenses, activities related to intellectual property, research materials and supplies and equipment depreciation. All research and development costs are expensed as incurred. The Company has entered into several license agreements for rights to utilize certain technologies. The terms of the licenses may provide for upfront payments, annual maintenance payments and royalties on product sales. Costs to acquire and maintain licensed technology are charged to research and development expense as incurred. During the years ended December 31, 2011, 2010 and 2009, the Company charged to research and development expense $344, $123 and $135 of costs associated with license fees, respectively. (See also Note 9f-9k).

Royalty bearing grants from the Bi-national Industrial Research and Development Foundation ("BIRD") and from the Chief Scientist of Israel's Ministry of Industry, Trade and Labor ("the OCS") for funding approved research and development projects, are presented as a reduction from the research and development expenses (see also Note 9.l). The Company received grants in an amount of $206, $0 and $297, in the years 2011, 2010 and 2009, respectively.

l. Accounting for stock-based compensation:

The Company accounts for stock-based compensation in accordance with ASC 718, "Compensation-Stock Compensation". ASC 718 requires companies to estimate the fair value of equity-based payment awards on the date of grant using an option-pricing model. The value of the portion of the award that is ultimately expected to vest is recognized as an expense over the requisite service periods in the Company's consolidated income statements.

The Company recognizes compensation expenses for the value of its awards granted based on the straight line method over the requisite service period of each of the awards, net of estimated forfeitures. ASC 718 requires forfeitures to be estimated at the time of grant and revised, if necessary, in subsequent periods if actual forfeitures differ from those estimates. Estimated forfeitures are based on actual historical pre-vesting forfeitures.

The Company selected the Black-Scholes option pricing model as the most appropriate fair value method for its stock-options awards and values restricted stock based on the market value of the underlying shares at the date of grant. The option-pricing model requires a number of assumptions, of which the most significant are the expected stock price volatility and the expected option term.

U.S. dollars in thousands (except share and per share data)

**NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

The weighted-average estimated fair value of employee stock options granted during the 12 months ended December 31, 2011, 2010 and 2009 was $0.49 $3.76 and $4.96, respectively per share using the Black-Scholes option pricing model with the following weighted-average assumptions (annualized percentages):

| | Year end | |
|---|---|---|
| | 2011 | |
| Dividend yield | 0% | |
| Expected volatility | 88% | 6 |
| Risk-free interest | 1.2% | |
| Expected life | 5-6 years | 5.5 |

The Company is required to assume a dividend yield as an input in the Black-Scholes model. The dividend yield assumption is based on the Company's historical experience and expectation of future dividend payouts. The Company has historically not paid dividends and has no foreseeable plans to pay dividends. The dividend yield used for the twelve months ended December 31, 2011 and 2010 was 0%.

The computation of expected volatility is based on realized historical stock price volatility of the Company's stock starting from the IPO date.

The risk-free interest rate assumption is the implied yield currently available on United States treasury zero-coupon issues with a remaining term equal to the expected life term of the Company's options.

The Company determined the expected life of the options according to the simplified method, average of vesting and the contractual term of the Company's stock options.

The Company applies ASC 718 and ASC 505-50, "Equity-Based Payments to Non-Employees" with respect to options and warrants issued to non-employees. ASC 718 requires the use of option valuation models to measure the fair value of the options and warrants at the measurement date.

m. Net loss per share:

Basic earnings per share are computed based on the weighted average number of Ordinary shares outstanding during each year. Diluted earnings per share are computed based on the weighted average number of Ordinary shares outstanding during each year, plus dilutive potential Ordinary shares considered outstanding during the year, in accordance with ASC 260, "Earnings per Share".

Basic and diluted net loss per share is computed using the weighted average number of Ordinary shares outstanding during the period.

## NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)

For the years ended December 31, 2011, 2010 and 2009, all outstanding options, warrants and Preferred shares, if any, have been excluded from the calculation of the diluted net loss per share since their effect was anti-dilutive.

n. Income taxes:

The Company and its subsidiary account for income taxes and uncertain tax positions in accordance with ASC 740, "Income Taxes". ASC 740 prescribes the use of the liability method whereby deferred tax assets and liability account balances are determined based on the differences between financial reporting and tax bases of assets and liabilities and are measured using the enacted tax rates and laws that will be in effect when the differences are expected to reverse.

The Company and its subsidiary provide a valuation allowance, if necessary, to reduce deferred tax assets to the amounts that are more likely-than-not to be realized.

The Company adopted ASC 740-10. ASC 740-10 contains a two-step approach to recognizing and measuring uncertain tax positions accounted for in accordance with ASC 740. The first step is to evaluate the tax position taken or expected to be taken in a tax return by determining if the weight of available evidence indicates that it is more likely than not that, on an evaluation of the technical merits, the tax position will be sustained on audit, including resolution of any related appeals or litigation processes. The second step is to measure the tax benefit as the largest amount that is more than 50% likely to be realized upon ultimate settlement.

o. Severance pay:

A majority of the employees are included under section 14 of the Israeli Severance Compensation Law ("Section 14"). Under Section 14, the company's monthly deposits, at a rate of 8.33% of such employees' monthly salary, are made on their behalf with insurance companies on account of severance pay. Payments in accordance with Section 14 release the Israeli companies from any future severance payments in respect of those employees. Deposits under Section 14 are not recorded as an asset in the Company's balance sheet.

For those Israeli employees who are not included under Section 14, the liability for severance pay is calculated pursuant to Israel's Severance Pay Law based on the most recent salary of the employees multiplied by the number of years of employment, as of the balance sheet date. Employees are entitled to one month's salary for each year of employment or a portion thereof. The Israeli subsidiary's liability for all of its employees is fully provided by monthly deposits with insurance policies and by an accrual. The value of these policies is recorded as an asset in the Company's balance sheet.

**NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

The deposited funds may be withdrawn only upon the fulfillment of the obligation pursuant to Israel's Severance Pay Law or labor agreements. The value of the deposited funds is based on the cash surrendered value of these policies, and includes immaterial profits.

Severance expenses for the years ended December 31, 2011, 2010 and 2009 were $173, $225 and $138, respectively.

The U.S. subsidiary has a 401(K) defined contribution plan covering certain employees in the U.S. All eligible employees may elect to contribute to the plan. The subsidiary matches the employee contributions to the plan up to a limit of 3% of their eligible compensation. In the years 2011, 2010 and 2009, the subsidiary recorded an expense for matching contributions in the amount of $30, $48 and $22, respectively.

p. Concentrations of credit risk:

Financial instruments that potentially subject the Company to concentrations of credit risk consist principally of cash and cash equivalents, short-term bank deposits, marketable securities, trade receivables and other accounts receivable.

Cash and cash equivalents are deposited with major banks in Israel and major banks in the United States. Such deposits in the United States may be in excess of insured limits and are not insured in other jurisdictions. Management believes that the financial institutions that hold the Company's investments are institutions with high credit standing, and accordingly, minimal credit risk exists with respect to these investments.

q. Fair value of financial instruments:

The carrying amounts of the Company's financial instruments, including cash and cash equivalents, short-term bank deposits, marketable securities, accounts receivable, accounts payable and accrued liabilities, approximate fair value because of their generally short-term maturities.

The Company adopted ASC 820, "Fair Value Measurements and Disclosures". ASC 820 clarifies that fair value is an exit price, representing the amount that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants.

As such, fair value is a market-based measurement that should be determined based on assumptions that market participants would use in pricing an asset or a liability. As a basis for considering such assumptions, ASC 820 establishes a three-tier value hierarchy, which prioritizes the inputs used in the valuation methodologies in measuring fair value:

**NOTE 2:- SIGNIFICANT ACCOUNTING POLICIES (Cont.)**

Level 1 - Observable input that reflects quoted prices (unadjusted) for identical assets or liabilities in active markets.

Level 2 - Include other inputs that are directly or indirectly observable in the marketplace.

Level 3 - Unobservable inputs which are supported by little or no market activity.

The fair value hierarchy also requires an entity to maximize the use of observable inputs and minimize the use of unobservable inputs when measuring fair value.

r. Impact of recently issued Accounting Standards:

In May 2011, the FASB issued ASU 2011-04, Fair Value Measurement (Topic 820): Amendments to Achieve Common Fair Value Measurement and Disclosure Requirements in U.S. GAAP. This pronouncement is an authoritative guidance to amend certain measurement and disclosure requirements related to fair value measurements to improve consistency with international reporting standards. This guidance is effective prospectively for public entities for interim and annual reporting periods beginning after December 15, 2011, with early adoption prohibited. The Company is currently evaluating the effect of ASU 2011-04, but does not expect its adoption will have a material effect on its consolidated financial statements.

In June 2011, the FASB issued ASU 2011-05, Comprehensive Income (Topic 220): Presentation of Comprehensive Income, which specifies that the total of comprehensive income, the components of net income and the components of other comprehensive income are to be presented in either a single continuous statement of comprehensive income or in two separate but consecutive statements. This update eliminates the option to present the components of other comprehensive income as part of the statement of changes in stockholders' equity. No change has been made in the items to be reported in comprehensive income. ASU 2011-05 is effective for the interim and annual periods beginning after December 15, 2011, and should be applied retrospectively. The Company is currently evaluating the effect of ASU 2011-05, but does not expect its adoption will have a material effect on its consolidated financial statements.

In December 2011, the FASB issued Accounting Standards Update 2011-12, Comprehensive Income (Topic 220). The amendments in this Update supersede certain pending paragraphs in Accounting Standards Update 2011-05, Comprehensive Income (Topic 220): Presentation of Comprehensive Income, to effectively defer only those changes in Update 2011-5 that relate to the presentation of reclassification adjustments out of accumulated other comprehensive income. For public entities, the amendments are effective for fiscal years, and interim periods within those years, beginning after December 15, 2011. The Company is currently evaluating the effect of this update on the consolidated financial statements.

U.S. dollars in thousands (except share and per share data)

## NOTE 3: - FAIR VALUE MEASUREMENTS

In accordance with ASC 820, "Fair Value Measurements and Disclosures" (originally issued as SFAS 157), the Company measures its marketable securities at fair value based on quoted market price. The Company valued the level 3 other accounts receivable, which resulted from the fair value of Parkway's estimated future consideration based on a valuation using the discounted cash flow model. Unobservable inputs used in this model are significant to the fair value of the asset. The fair value of the liability for warrants related to share purchase agreement was calculated using the Black-Scholes model and the Company classified this liability within Level 3.

The Company's financial assets (liabilities) measured at fair value on a recurring basis, excluding accrued interest components, consisted of the following types of instruments as of December 31, 2011:

| | Fair value measurements using input type | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Assets: | | | | |
| Other accounts receivable resulting from fair value of Parkway's estimated future consideration | $ - | $ - | $ 125 | $ 125 |
| Total assets | $ - | $ - | $ 125 | $ 125 |

For more details, refer to note 1e.

| | Fair value measurements using input type | | | |
|---|---|---|---|---|
| | Level 1 | Level 2 | Level 3 | Total |
| Liabilities: | | | | |
| Warrants related to share purchase agreement | $ - | $ - | $ 165 | $ 165 |
| Total liabilities | $ - | $ - | $ 165 | $ 165 |

For more details, refer to note 10.

U.S. dollars in thousands (except share and per share data)

## NOTE 4:- SHORT-TERM BANK DEPOSIT

As of December 31, 2011 and 2010, the Company's bank deposits are as follows:

| December 31, 2011 | | |
|---|---|---|
| **Amount** | **Maturity date** | **Annual interest** |
| 112 | December 5, 2012 | 0.6% |

| December 31, 2010 | |
|---|---|
| **Amount** | **Maturity date** |
| 78 | January 11, 2011 |
| 112 | December 5, 2011 |

## NOTE 5:- MARKETABLE SECURITIES

The balance of these securities as of December 31, 2010 is stated at fair value.

| | Amortized cost | Acc int |
|---|---|---|
| December 31, 2010: | | |
| Available-for-sale: | | |
| Israeli government bonds | 140 | |
| Total securities at December 31, 2010 | $ 140 | $ |

Proceeds from maturity and sales of available-for-sale securities during 2011, 2010 and 2009 were $148, $3,398 and $2,291, respectively. Net realized gains from the sales of available-for-sale securities in the years 2011, 2010 and 2009 are $0, $123 and $16, respectively.

## NOTE 6:- OTHER ACCOUNTS RECEIVABLE AND PREPAID EXPENSES

| | |
|---|---|
| Deferred charges and prepaid expenses | $ |
| Other accounts receivable (*) | |
| | $ |

(*) Short term portion of Parkway's estimated future consideration (see Note 1e).

U.S. dollars in thousands (except share and per share data)

## NOTE 7:- PROPERTY AND EQUIPMENT

| | December 31, | |
|---|---|---|
| | 2011 | 201 |
| Cost: | | |
| Computer equipment | $ 584 | $ |
| Office furniture and laboratory equipment | 1,336 | |
| Leasehold improvements | 384 | |
| | 2,304 | |
| Accumulated depreciation: | | |
| Computer equipment | 497 | |
| Office furniture and laboratory equipment | 920 | |
| Leasehold improvements | 295 | |
| | 1,712 | |
| Depreciated cost | $ 592 | $ |

Depreciation expenses for the years ended December 31, 2011, 2010 and 2009 were $458, $415 and $344, respectively. Those expenses include depreciation expenses of capital lease equipment for the years ended December 31, 2011, 2010 and 2009 of $52, $88 and $88, respectively.

## NOTE 8:- OTHER ACCOUNTS PAYABLE AND ACCRUALS

| | December 31, | |
|---|---|---|
| | 2011 | 201 |
| Employees salaries and payroll accruals | $ 333 | $ |
| Accrued expenses and other | 110 | |
| Settlement arrangement - see Note 9m | 791 | |
| Current maturity of capital lease (a) | 30 | |
| | $ 1,264 | $ |

a. Capital lease and operating lease:

During 2011 and 2010, the Company leased laboratory equipment and computer equipment under several capital and operating lease agreements in a total amount of $41 and $29, respectively, to be paid in 16 to 27 monthly payments.

U.S. dollars in thousands (except share and per share data)

## NOTE 9: - COMMITMENTS AND CONTINGENT LIABILITIES

a. Restricted cash:

As of December 31, 2011, restricted cash was primarily attributed to a bank guarantee to the landlord of the Israeli property. As of December 31, 2010, the Company did not have any restricted cash.

b. The facilities of the Company are rented under operating leases. Aggregate minimum rental commitments under the non-cancelable rent agreements as of December 31, 2011, are as follows:

| | |
|---|---|
| 2012 | $ 543 |
| 2013 | 323 |
| Total | $ 866 |

Total rent expenses for the years ended December 31, 2011, 2010 and 2009 were $630, $565 and $566, respectively.

c. The Company leases its motor vehicles under cancelable operating lease agreements. The minimum payment under these operating leases, upon cancellation of these lease agreements was $5 as of December 31, 2011.

Lease expenses for motor vehicles for the years ended December 31, 2011, 2010 and 2009, were $152, $139 and $140, respectively

d. As of December 31, 2011 and 2010, the Company provided a bank guarantee for the fulfillment of its lease commitments in the amount of approximately $140 and $139, respectively.

e. In May 2006, the Company signed a royalty-bearing, co-exclusive, worldwide license agreement with a third party. Under this agreement, the Company was granted the right to make, use and sell the third party's proprietary microRNAs for diagnostic purposes including a limited right to sublicense. In consideration for this license the Company paid an initiation fee and will pay a fixed annual license maintenance fee, royalties based on net sales and a percentage of the Company's revenues from any sublicense. The Company estimates that until 2029 the minimum aggregate license maintenance fees over the term of this agreement should be approximately $960, of which $720 will be paid after December 31, 2011. During the years ended December, 31, 2011, 2010 and 2009, the Company paid fees in the amount of $47, $47 and $47, respectively, to the third party. The Company recorded the payments as research and development expenses.

**NOTE 9:- COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)**

f. In June 2006, the Company signed a royalty-bearing, co-exclusive, worldwide license agreement with a third party. Under this agreement, the Company licensed from this third party the rights to its proprietary microRNAs for diagnostic purposes. In consideration for this license the Company paid an initiation fee and will pay a fixed annual license maintenance fee, royalties based on net sales and a percentage of the Company's revenue from any sublicense. The Company estimates that until 2022 the minimum aggregate license maintenance fees over the term of this agreement should be approximately $504, of which $426 will be paid after December 31, 2011. During the years ended December 31, 2011, 2010 and 2009, the Company paid fees in the amount of $39, $27 and $13, respectively, to the third party. The Company recorded the payments as research and development expenses.

g. In August 2006, the Company signed a royalty-bearing, exclusive, worldwide license agreement with a third party. Under this agreement, the Company has exclusively licensed from this third party the rights to its proprietary microRNAs for all fields and applications including a limited right to sublicense. In consideration for this license the Company paid an initiation fee and will pay minimum annual royalties, royalties based on net sales and a percentage of the Company's revenues from any sublicense. This agreement was amended and restated in August 2011 and is now on a non-exclusive basis. For the amendment, the Company paid an amendment fee. The Company estimates that until 2032 the aggregate minimum royalties over the term of this agreement should be approximately $320, of which $210 will be paid after December 31, 2011. During the years ended December 31, 2011, 2010 and 2009, the Company paid fees in the amount of $12, $59 and $25, respectively to the third party. The Company recorded the payments as research and development expenses.

h. In December 2006, the Company signed a royalty-bearing, non-exclusive, worldwide license agreement with a third party. Under this agreement the Company licensed from the third party its proprietary microRNAs for research purposes. In consideration for this license the Company will pay an initiation fee and will be required to pay a fixed annual license maintenance fee, royalties based on net sales and a percentage of the Company's revenues from any sublicenses. The Company estimates that until 2022 the minimum aggregate license maintenance fees over the term of this agreement should be approximately $310, of which $213 will be paid after December 31, 2011. During the years ended December 31, 2011, 2010 and 2009, the Company paid fees in the amount of $21, $22 and $19, respectively under this agreement. The Company recorded the payments as research and development expenses.

**NOTE 9:- COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)**

i. In May 2007, the Company signed a royalty-bearing, co-exclusive, worldwide license agreement with a third party. Under this agreement, the Company has licensed from this third party the rights to its proprietary microRNAs for therapeutic purposes including a limited right to sublicense. In consideration for this license the Company paid an initiation fee and will pay a fixed annual license maintenance fee, payments based on milestones and royalties based on net sales and a percentage of the Company's revenues from any sublicense. The Company estimates that until 2029 the minimum aggregate maintenance fees over the term of this agreement should be approximately $690, of which $540 will be paid after December 31, 2011. During the years ended December 31, 2011, 2010 and 2009, the Company paid fees in the amount of $35, $35 and $35, respectively, to the third party. The Company recorded the payments as research and development expenses.

j. In January 2008, the Company signed a royalty-bearing, co-exclusive, worldwide license agreement with a third party. Under this agreement, the Company was granted the right to make, use and sell the third party's proprietary microRNAs for research purposes including a limited right to sublicense. In consideration for this license the Company paid an initiation fee and will pay a fixed annual license maintenance fee, royalties based on net sales and a percentage of the Company's revenues from any sublicense. The Company EEestimates that until 2029 the minimum aggregate license maintenance fees over the term of this agreement should be approximately $440, of which $360 will be paid after December 31, 2011. During the years ended December, 31, 2011, 2010 and 2009, the Company paid fees in the amount of $24, $24 and $24, respectively, to the third party. During the year ended December, 31, 2008, the Company paid initiation fees in the amount of $40, to the third party. The Company recorded the payments as research and development expenses.

k. In June 2011 the Company entered into an agreement with PACE claims services, LLC, a wholly owned subsidiary of Navigant Inc.("PACE"), according to which, PACE will provide the Company exclusive educational and marketing services to defendants involved in lawsuits relating to malignant pleural mesothelioma and asbestos exposure, provided the exclusivity does not apply to the Company‘s marketing efforts and to any marketing efforts of the Company’s distributors offering the Company’s tests outside of the United States of America. According to this agreement, PACE will be entitled to certain remuneration derived from actual sales to defendants in these lawsuits.

l. Under the BIRD royalty-bearing program, the Company is not obligated to repay any amounts received from BIRD if the development work being carried out by the Company does not continue beyond the investigational new drug ("IND") stage. If the development work which is being carried out by the Company continues beyond the IND stage, the Company is required to repay BIRD 100% of the grant that the Company received provided that the repayment to BIRD is made within the first year following project completion. For every year that the Company does not make these repayments, the amount to be repaid incrementally increases up to 150% in the fifth year following project completion. All amounts to be repaid to BIRD are linked to the U.S. Consumer Price Index.

**NOTE 9:- COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)**

As of December 31, 2011, the Company had received $500 from BIRD, which was offset against research and development expenses. As of December 31, 2011, no liability was recorded since the Company did not reach technological feasibility for this project.

m. Settlement Agreement with Prometheus:

1. On May 10, 2010, Prometheus Laboratories Inc. ("Prometheus") initiated arbitration proceedings under the License Agreement, dated April 10, 2009, by and between the Company and Prometheus ("the License Agreement") in the International Court of Arbitration to resolve a dispute relating to the scope and funding of the development plan for the development program set forth in the License Agreement ("the Arbitration Proceeding"). On May 12, 2010, the Company delivered a notice of material breach of the License Agreement to Prometheus, alleging that Prometheus failed to comply with its obligations under the License Agreement (i) to fund and implement the development program; and (ii) to use commercially reasonable efforts to commercialize the three diagnostic tests licensed to Prometheus pursuant to the License Agreement.

2. In response, on May 12, 2010, Prometheus issued a notice to the Company alleging that the Company had made material misrepresentations in connection with the Stock Purchase Agreement, dated April 10, 2009, between the Company and Prometheus and demanding rescission of the securities purchased by Prometheus under the Stock Purchase Agreement ("the Rescission Demand").

3. On June 28, 2010, the Company responded to Prometheus' arbitration demand and filed its counterclaims in the Arbitration Proceeding, alleging the same material breaches set forth in its May 12, 2010 notice of material breach. In its counterclaim, the Company requested that the arbitral tribunal declare the License Agreement to be terminated or rescinded on the grounds of Prometheus' material breaches, and further requested that the tribunal award money damages to the Company, in an amount to be determined in the Arbitration Proceeding.

   That same day, the Company also sent a termination notice to Prometheus, confirming that if Prometheus failed to cure its material breaches, the Company would deem the License Agreement as terminated on and as of July 12, 2010. On July 1, 2010, the Company and Prometheus entered into a standstill agreement, deferring the effectiveness of the Company's termination of the License Agreement.

   On November 22, 2010, the Company and Prometheus entered into a Settlement Agreement and mutual release ("the Settlement Agreement") to resolve these disputes, including all claims relating to the Arbitration Proceeding.

   Under the Settlement Agreement, the License Agreement and the Services Agreement have been terminated and the Purchase Agreement has been amended such that, among other things, Prometheus' information rights, pre-emptive rights and board observer rights have been terminated.

## NOTE 9:- COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)

In consideration of the termination of the licenses and the return of the commercialization rights under the License Agreement, the Company has agreed to pay Prometheus $3,100 as follows: (a) $1,200 is to be paid on December 2, 2010, (b) $500 is to be paid on or before February 28, 2011, (c) $650 is to be paid on or before November 22, 2011, and (d) $750 is to be paid on or before May 22, 2012. The Company has granted Prometheus a non-interest bearing note with respect to the $500 payment due on or before February 28, 2011 and a note bearing interest at 12% per year with respect to the $650 payment due on or before November, 22, 2011 and the $750 payment due on or before May 22, 2012.

The Company and Prometheus have agreed to mutually release and discharge all claims which were made or could have been made in the arbitration, under the License Agreement, the Services Agreement and the Purchase Agreement, up to the date of the Settlement Agreement, and have agreed to dismiss the arbitration with prejudice within two business days of the date the initial $1,200 payment is received by Prometheus. The Company paid the initial $1,200 payment in December 2010 and, therefore, as of December 31, 2010, all claims have been released.

In 2010, as a result of the Settlement Agreement, the Company reversed the $1,700, which had been classified in previous periods as deferred revenues, due to Prometheus' past payments to the Company and has released the restricted cash recorded for the Development Fund which amounted to $729 and recognized the accrued expenses recorded for this Development Fund in its statements of operations (see Note 1g). As of December 31, 2010, the accrued expenses for these future payments amounted to a total of $1,862, of which an amount of $727 was classified to long-term accrued expenses and $1,135 was classified to short-term accrued expenses. In addition, as of December 31, 2010 the Company has recorded a liability for settlement arrangement for its future payment obligations to Prometheus according to their fair values. The fair value of the payments due to Prometheus as of November 22, 2010, net of the $1,700 deferred revenues and the Development Fund recognized, amounted to $554 and was recorded as other operating expenses. In 2010, the Company recorded an amount of $79 as financial expenses relating to the settlement agreement

In 2011, the Company paid the $500 payment due on or before February 2011 in a timely manner. On November 22, 2011, the Company defaulted on $650 payment due to Prometheus according to the Settlement Agreement, but cured the default by paying $650 principal payment, plus accrued and unpaid interest on December 1, 2011. As of December 31, 2011, the accrued expenses for the future payment amounted to a total of $791, of which is classified to short-term. In 2011, the Company recorded an amount of $251 as financial expenses relating to the settlement agreement.

## NOTE 9:- COMMITMENTS AND CONTINGENT LIABILITIES (Cont.)

n. Rimonim Consortium:

In January 2011, the Company joined the Rimonim Consortium, which is supported by the Office of the Chief Scientist of Israel's Ministry of Industry, Trade and Labor ("the OCS"), of the State of Israel, or the OCS. The purpose of the consortium is to develop RNAi-based therapeutics. As of December 31, 2011 the Company received total grants of $190 from the OCS for its development under the consortium.

## NOTE 10:- SHARE CAPITAL

a. Ordinary shares:

Ordinary shares confer upon the holders the right to receive notice to participate and vote in the general meetings of the Company, the right to receive dividends, if declared.

b. Investment agreements:

1. In July 2008, as a part of the consideration of Parkway's acquisition (see also Note 1f), the Company issued to Parkway's former sole owner 57,415 Ordinary shares which are equal in value to $1,000, based on the weighted-average closing price of the Company's Ordinary shares during the 10 trading days immediately preceding the date of issuance.

2. On April 10, 2009, the Company entered into a stock purchase agreement with Prometheus Laboratories ("the Purchase Agreement" and "PL" or "Prometheus", respectively). Under the Purchase Agreement, on April 27, 2009 ("the closing date"), PL purchased 500,000 Ordinary shares of the Company at a price of $16.00 per share in a private placement transaction for gross consideration amount of $8,000 (see also Note 1g)).

3. In November 2009, the board of directors of the Company approved the grant of 16,250 Ordinary shares to one of the Company's executive officers.

4. In December 2009, the board of directors and the shareholders of the Company approved an increase of 2,500,000 Ordinary shares to the authorized share capital. The authorized share capital of the Company after this increase was 6,894,593 Ordinary shares.

5. In October 2010, the board of directors and the shareholders of the Company approved an increase of 7,500,000 Ordinary shares to the authorized share capital. The authorized share capital of the Company after this increase was 14,394,593 Ordinary shares.

U.S. dollars in thousands (except share and per share data)

**NOTE 10:- SHARE CAPITAL (Cont.)**

6. In January 2010, the Company completed a registered direct offering with several institutional investors. The Company received proceeds of approximately $4,650 net of placement agent fees and other offering expenses. Under the terms of the financing, the Company sold 2,530,000 units, consisting of an aggregate of 632,500 Ordinary shares and warrants to purchase 316,257 additional Ordinary shares. Each unit, consisting of one Ordinary share and a 0.50 warrant to purchase an Ordinary share, was sold for a purchase price of $8.00. In addition, the Company granted additional warrants as finders' fee to purchase up to 23,719 Ordinary shares.

The exercise price of the warrants is $10 per Ordinary share. The warrants are exercisable for a period of five years.

The Company accounted for these warrants according to the provisions of ASC 815, "Derivatives and Hedging - Contracts in Entity's Own Equity" and based on certain terms of the warrants classified them as liabilities, measured at fair value each reporting period until they will be exercised or expired, with changes in the fair values being recognized in the Company's statement of operations as financial income or expense.

The fair value was measured using the Black-Scholes model. In estimating the warrants' fair value, the Company used the following assumptions:

| | Issuance date | December 31, 2011 |
|---|---|---|
| Risk-free interest rate (1) | 2.48% | 0.41% |
| Expected volatility (2) | 64% | 92.7% |
| Expected life (in years) (3) | 5 | 3 |
| Expected dividend yield (4) | 0 | 0 |
| Fair value: | | |
| Warrants | $ 1,352 | $ 1 |

(1) Risk-free interest rate - based on yield rates of non-index linked U.S. Federal Reserve treasury bonds.

(2) Expected volatility - was calculated based on actual historical stock price movements of the Company over that is equivalent to the expected term of the option.

(3) Expected life - the expected life was based on the maturity date of the warrants.

(4) Expected dividend yield - was based on the fact that the Company has not paid dividends to its shareholders past and does not expect to pay dividends to its shareholders in the future.

**NOTE 10:- SHARE CAPITAL (Cont.)**

On the issuance date, in January 2010, the warrants' fair value amounted to $1,352. As of December 31, 2011, the fair value of the warrants amounted to $1.

7. On December 1, 2010, the Company completed a private placement ("PIPE") offering with several investors. The Company received proceeds of approximately $2,240, net of placement agent fees and other offering expenses. Under the terms of the financing, the Company sold 2,500,000 units, consisting of an aggregate of 625,000 Ordinary shares, warrants to purchase up to an aggregate of 312,504 ordinary shares at an exercise price of $5.2 per share ("Series A Warrants") and warrants to purchase up to an aggregate of 156,250 Ordinary shares at an exercise price of $0.04 per share ("Series B Warrants"). Each unit was sold for a purchase price of $4.00. In addition, the Company granted additional warrants as finders' fee to purchase up to 15,626 Ordinary shares.

The Series A Warrants are exercisable immediately upon issuance, expire on December 1, 2015 and the exercise price is subject to potential future adjustment upon occurrence of various events, such as stock splits or dilutive issuances. On February 23, 2011, in connection with the financing transactions closed by the Company, the exercise price of the Series A Warrants was automatically adjusted thereof from $5.2 per share to $4.00 per share.

Each Series B Warrant were automatically exercised on a cashless basis on the 33rd trading day following December 23, 2010, to a number of Ordinary shares that was subject to adjustment as defined in the agreement.

On February 9, 2011, the Series B Warrants were automatically exercised on a cashless basis to 154,611 Ordinary shares. Upon the conversion of Series B Warrants, the fair value of Series B Warrants was classified as equity.

The Company accounted for the Series A and B Warrants according to the provisions of ASC 815, "Derivatives and Hedging - Contracts in Entity's Own Equity", and based on certain terms of the warrants, classified them as liabilities, measured at fair value in each reporting period until they are exercised or expired, with changes in the fair values being recognized in the Company's statement of operations as financial income or expense.

The fair value of the Series A Warrants was measured using Black-Scholes model. The fair value was estimated taking into consideration (a) the possibility of the Company becoming privately owned and/or a possibility in which there is an all-cash transaction in the Company's shares, (b) the possibility that the Company will issue additional shares for a share price of under $4. In estimating the warrants' fair value, the Company used the following assumptions:

U.S. dollars in thousands (except share and per share data)

**NOTE 10:- SHARE CAPITAL (Cont.)**

| | Issuance date | December 31, 2011 |
|---|---|---|
| Risk-free interest rate | 1.35% | 0.69% |
| Expected volatility | 63% | 86.3% |
| Expected life (in years) | 5 | 4 |
| Expected dividend yield | 0 | 0 |
| Fair value: | | |
| Warrants | $ 636 | $ 5 |

The fair value of the Series B Warrants was measured using Monte Carlo simulation. In estimating the warrants fair value, the Company used the following assumptions:

| | Issuance date |
|---|---|
| Risk-free interest rate | 0.29% |
| Expected volatility | 65% |
| Expected life | 48 days |
| Expected dividend yield | 0 |
| Fair value: | |
| Warrants | $ 563 |

On the issuance date, December 1, 2010, the fair value of the Series A Warrants and Series B Warrants amounted to $636 and $563, respectively. As of December 31, 2011, the fair value of the Series A Warrants amounted to $5.

8. On February 23, 2011, the Company completed a concurrent private placement and registered direct offering. The Company received proceeds of approximately $5,500 net of placement agent fees and other offering expenses of $542.

Under the terms of the private placement, the Company has issued 1,135,417 Ordinary shares at a price of $2.4 per share. The purchasers in the private placement also received warrants to purchase up to an aggregate of 851,566 Ordinary shares at an exercise price of $3.2 per share ("the Private Placement Warrants"). The Private Placement Warrants are exercisable immediately upon issuance and have a term of five years. In addition, the Company granted additional warrants as finders' fee to purchase up to 28,388 Ordinary shares.

**NOTE 10:- SHARE CAPITAL (Cont.)**

Under the terms of the registered direct offering, the Company has issued 1,364,668 Ordinary shares at a price of $2.4 per share. The purchasers in the registered direct offering also received warrants to purchase up to an aggregate of 682,338 Ordinary shares at an exercise price of $3.2 per share ("the Registered Direct Warrants"). The Registered Direct Warrants are exercisable immediately upon issuance and have a term of five years. In addition, the Company granted additional warrants as finders' fee to purchase up to 34,118 Ordinary shares.

The Company accounted for the Private Placement Warrants according to the provisions of ASC 815, "Derivatives and Hedging - Contracts in Entity's Own Equity", and based on certain terms of the warrants, classified them as equity.

9. Reverse stock split and increase of share capital

In July 2011, the Company approved:

a) To consolidate the registered (authorized) share capital of the Company as follows: every four (4) Ordinary S with a nominal (par) value of NIS 0.01 each will be consolidated into one (1) ordinary share with a nomina value of NIS 0.04 each (such action together with the above mentioned increase of share capital, the "R Split"). As a result of the Reverse Split, the registered (authorized) share capital of the Company has been ch to 14,400,000 ordinary shares with a nominal (par) value of NIS 0.04 each.

b) To increase the registered (authorized) share capital of the Company to 30,000,000 ordinary shares with a no (par) value NIS 0.04 each.

All Ordinary shares, options and per share amounts have been adjusted to give retroactive effect to this reverse split for all periods presented.

10. On October 19, 2011, the Company completed a private placement offering from its investors. The Company received proceeds of approximately $1,300, net of placement agent fees and other offering expenses of $236. Under the terms of the financing, the Company sold 2,025,001 units, consisting of an aggregate of 2,025,001 Ordinary shares, warrants to purchase up to an aggregate of 2,025,001 ordinary shares at an exercise price of $0.5 per share ("Series A' Warrants") and warrants to purchase up to an aggregate of 1,012,502 Ordinary shares at an exercise price of $0.01 or NIS 0.04 per share ("Series B' Warrants"). Each unit was sold for a purchase price of $0.75. In addition, the Company granted additional warrants as finders' fee to purchase up to 50,625 Ordinary shares. The Series A' Warrants expire on October 19, 2016.

According to Series B' Warrants agreement, each Series B' Warrant will be automatically exercised on a cashless basis on the 11th trading day following November 10, 2011, to a number of ordinary shares equal to the difference between (a) the quotient obtained by dividing (1) 200% of the maximum number of warrant Shares issuable under the Series B' Warrant multiplied by the $0.75 by (2) the greater of $0.50 and 80% of the average of the 10 Volume-weighted average price immediately following the November 10, 2011 and (b) the maximum number of Warrant Shares issuable under the Series B' Warrant multiplied by 2.

U.S. dollars in thousands (except share and per share data)

**NOTE 10:- SHARE CAPITAL (Cont.)**

On November 28, 2011, the Series B' Warrants were automatically exercised on a cashless basis to 986,225 Ordinary shares. Upon the conversion of Series B' Warrants, the fair value of Series B' Warrants was classified as equity.

The Company accounted for the Series A' and B' Warrants according to the provisions of ASC 815, "Derivatives and Hedging - Contracts in Entity's Own Equity", and based on certain terms of the warrants, classified them as liabilities, measured at fair value in each reporting period until they are exercised or expired with changes in the fair values being recognized in the Company's statement of operations as financial income or expense.

The fair value of the Series A' Warrants was measured using Black-Scholes model. In estimating the warrants' fair value, the Company used the following assumptions:

| | Issuance date | December 31, 2011 |
|---|---|---|
| Risk-free interest rate | 1.1% | 0.9% |
| Expected volatility | 63.5% | 81.2% |
| Expected life (in years) | 5 | 4.8 |
| Expected dividend yield | 0 | 0 |
| Fair value: | | |
| Warrants | $ 677 | $ 158 |

The fair value of the Series B' Warrants was measured using Monte Carlo simulation. In estimating the warrants fair value, the Company used the following assumptions:

| | Issuance date |
|---|---|
| Risk-free interest rate | 0.11% |
| Expected volatility | 78% |
| Expected life | 42 days |
| Expected dividend yield | 0 |
| Fair value: | |
| Warrants | $ 378 |

**NOTE 10:- SHARE CAPITAL (Cont.)**

On October 19, 2011, the fair value of the Series A' Warrants and Series B' Warrants amounted to $677 and $378, respectively. As of December 31, 2011, the fair value of the Series A' Warrants amounted to $158.

c. Finders' fee warrants:

Under finders' fee agreements, 152,476 warrants are outstanding as of December 31, 2011.

d. Stock option plans:

1. During 2001, the Company adopted the 2001 Israeli Share Option Plan ("the 2001 Plan"), pursuant to which options may be granted to the Company's officers, directors, employees and consultants.

Pursuant to the 2001 Plan, the Company has reserved a total of 94,170 shares for this plan and for any other option plans, which may be adopted by the Company in the future.

In March 2003, the Company adopted the 2003 Israeli Share Option Plan ("the 2003 Plan"), pursuant to which options may be granted to the Company's officers, directors, employees and consultants. Pursuant to the 2003 Plan, the Company has reserved an additional 47,085 shares for the 2003 Plan and for any other share option plans that have previously been, or in the future may be, adopted by the Company.

In July 2006, the Company adopted the 2006 Israeli Share Option Plan ("the 2006 Plan"), pursuant to which options may be granted to the Company's directors, employees, consultants and service providers. Pursuant to the 2006 Plan, the Company has reserved an additional 113,006 shares for the 2006 Plan and for any other share option plans that have previously been, or in the future may be, adopted by the Company. In November 2007, the Company approved an additional 125,000 shares for the 2006 Plan.

In December 2009, the Company approved an additional 375,000 Ordinary shares for the 2006 Plan.

The total number of options authorized for grant under the plans amounted to 854,707. As of December 31, 2011, an aggregate of 71,863 options of the Company are available for future grants.

U.S. dollars in thousands (except share and per share data)

**NOTE 10:- SHARE CAPITAL (Cont.)**

Options granted under the 2001 and 2003 Plans typically vest, as set forth in each optionee's option agreement, over three years. Options granted under the 2006 Plan typically vest, as set forth in each optionee's option agreement, over 4 years. All options are exercisable until ten years from the grant of the option. Any options which are forfeited or unexercised become available for future grants. The exercise price equals the share price on the grant date.

2. A summary of the Company's stock option activity and related information for the year ended December 31, 2011, is as follows:

| | Number of options | Weighted -average exercise price | Weighted-average remaining contractual term (in years) | Aggregate intrinsic value |
|---|---|---|---|---|
| Outstanding at January 1, 2011 | 472,455 | $ 12.56 | | |
| Granted | 200,000 | $ 0.67 | | |
| Exercised | - | $ - | | |
| Forfeited | (43,013) | $ 15.5 | | |
| Outstanding at December 31, 2011 | 629,442 | $ 6.51 | 6.92 | 0.49 |
| Vested or expected to vest | 521,010 | $ 6.71 | 7.88 | 0.49 |
| Exercisable at December 31, 2011 | 367,215 | $ 9.62 | 7 | 0.49 |

The weighted-average grant-date fair value of options granted during the twelve months ended December 31, 2011, 2010 and 2009 was $0.49, $3.76 and $4.96, respectively. The aggregate intrinsic value in the table above represents the total intrinsic value (the difference between the fair market value of the Company's Ordinary shares on December 31, 2011 and the exercise price, multiplied by the number of in-the-money options) that would have been received by the option holders had all option holders exercised their options on December 31, 2011. This amount changes based on the fair market value of the Company's shares.

During the year ended December 31, 2011, no options were exercised. As of December 31, 2011, there was $245 of total unrecognized compensation cost related to non-vested share-based compensation arrangements granted under the Company's stock option plans. The cost is expected to be recognized over a weighted average period of 2.24 years.

U.S. dollars in thousands (except share and per share data)

**NOTE 10:- SHARE CAPITAL (Cont.)**

In October 2010, the board of directors of the Company approved the grant of 2,250 restricted shares.

In February 2011, the board of directors of the Company approved the grant of 1,250 restricted shares.

As of December 31, 2011, 3,500 restricted shares of employees are outstanding.

The following table summarizes information about options to employees outstanding at December 31, 2011 under the Plans:

| Exercise price | Options outstanding at December 31, 2011 | Weighted average remaining contractual life (years) | Weighted average exercise price | Options exercisable at December 31, 2011 | Average exercise price of options exercisable |
|---|---|---|---|---|---|
| $ 0 | 2,724 | 1.08 | $ 0 | 2,724 | $ 0 |
| $ 0.04 - 8.20 | 487,594 | 8.16 | $ 3.32 | 230,879 | $ 4.92 |
| $ 8.48-18.80 | 107,695 | 1.69 | $ 14.94 | 102,183 | $ 14.94 |
| $ 21.80-26.36 | 20,537 | 1.31 | $ 25.17 | 20,537 | $ 25.17 |
| $ 28.39-35.20 | 10,892 | 4.44 | $ 32.36 | 10,892 | $ 32.36 |
| | 629,442 | | | 367,215 | |

On April 11, 2011 the board of directors discussed and approved a repricing of the exercise price of 125,000 stock options granted in 2009 to one employee. The Company accounted for the re-price as a new grant according to ASC 718 "Compensation - Stock Compensation". The Company evaluated the fair value of options before and after the repricing. For the 62,693 stock options that were fully vested, as of the repricing date, the company immediately recognized stock based compensation expenses in the financial statements in the amount of $36. For the other 62,307 stock option, that were not fully vested, the compensation expenses will be recognized over the remaining vesting period. During the year ended December 31, 2011, the Company recognized stock based compensation expenses regarding the options, which were not fully vested, in the amount of $29.

On May 26, 2011, the Company's board of directors approved, subject to shareholders' approval which occurred on July 6, the grant to one of the directors, options to purchase 75,000 ordinary shares, at an exercise price of $1.08 per share, vesting over a period of 3 years.

U.S. dollars in thousands (except share and per share data)

**NOTE 10:- SHARE CAPITAL (Cont.)**

The following table sets forth the total stock-based compensation expense resulting from stock options granted to employees and directors included in the Company's consolidated statement of operations:

| | |
|---|---|
| Research and development costs, net | $ |
| Marketing and business development expenses | |
| General and administrative expenses | |
| Cost of goods sold | |
| Total stock-based compensation expense | $ |

e. Options and warrants issued to non-employees:

1. The Company's outstanding options to non-employees as of December 31, 2011, are as follows:

| Issuance date | Options for Ordinary shares | |
|---|---|---|
| April 2002 | 2,572 | $ |
| April 2002 | 2,572 | $ |
| May 2002 | 2,572 | $ |
| July 2002 | 2,572 | $ |
| September 2002 | 2,913 | $ |
| September 2002 | 1,884 | $ |
| January 2004 | 628 | $ |
| November 2004 | 3,557 | $ |
| December 2004 | 628 | $ |
| August 2006 | 942 | $ |
| July 2007 | 2,500 | $ |
| November 2007 | 6,250 | $ |
| January 2008 | 3,750 | $ |
| August 2008 | 6,250 | $ |
| | 39,590 | |

As of December 31, 2011, there was less than $1 of total unrecognized compensation cost related to non-vested share-based compensation arrangements granted under the Company's stock option plans. The cost is expected to be recognized over a weighted average period of 0.59 years.

2. The Company had accounted for its options to non-employees under the fair value method of ASC 718 and ASC 505-50. The fair value of options granted with an exercise price of $0, was equal to the share price at the date of grant.

**NOTE 10:- SHARE CAPITAL (Cont.)**

3. The total stock-based compensation expense resulting from stock options granted to non-employees included in the Company's consolidated statement of operations were $1 and $19 for the years ended December 31, 2011 and 2010, respectively.

4. Options to purchase 31,624 Ordinary shares at an exercise price of $0, which were granted during the years 2003-2010, were exercised during 2010.

5. On April 11, 2011, the Company granted 17,500 warrants to purchase 17,500 Ordinary shares of the Company, nominal value NIS 0.04 per share to its non-employee. The warrants are exercisable for a period of four years. During the year 2011, an expense of $1 was recognized.

**NOTE 11:- INCOME TAXES**

a. Measurement of taxable income under the Income Tax (Inflationary Adjustments) Law, 1985:

Results for tax purposes in Israel are measured and reflected in real terms in accordance with the change in the Consumer Price Index (CPI) until the end of 2007. As explained in Note 2b, the consolidated financial statements are presented in dollars. The differences between the change in the Israeli CPI and in the NIS/dollar exchange rate causes a difference between taxable income or loss and the income or loss before taxes reflected in the consolidated financial statements. In accordance with paragraph 9(f) of ASC 740, the Company has not provided deferred income taxes on this difference between the reporting currency and the tax bases of assets and liabilities.

According to the law, until 2007 the results for tax purposes were adjusted for changes in the Israeli CPI.

In February 2008, the "Knesset" (Israeli parliament) passed an amendment to the Income Tax (Inflationary Adjustments) Law, 1985, which limits the scope of the law starting 2008 and thereafter. Starting 2008, the results for tax purposes are measured in nominal values, excluding certain adjustments for changes in the Israeli CPI carried out in the period up to December 31, 2007. The amendment to the law includes, inter alia, the elimination of the inflationary additions and deductions and the additional deduction for depreciation starting 2008.

b. Tax benefits under Israel's Law for the Encouragement of Industry (Taxes), 1969 ("the Tax Law"):

The Company is currently qualified as an "industrial company", as defined by the Tax Law, and as such, is entitled to certain tax benefits, mainly amortization of costs relating to know-how and patents over eight years, the right to claim public issuance expenses over three years, and accelerated depreciation.

## NOTE 11:- INCOME TAXES (Cont.)

c. Tax benefits under the Law for the Encouragement of Capital Investments, 1959 ("the Law"):

The Company's production facilities in Israel have been granted "Approved Enterprise" status under the Law currently under separate investment programs. Pursuant to the Law, the Company elected the "Alternative Benefits Track" and has waived Government grants in return for tax exemption.

The main benefit arising from such status is the reduction in tax rates on income derived from "Approved Enterprises". Consequently, the Company is entitled to a two-year tax exemption and five years of tax at a reduced rate (25%).

Additionally, if the Company becomes a "foreign investors company", as defined by the Law, as such it will be entitled to a reduced tax rate of 10%-25% (based on the percentage of foreign ownership in each tax year) and an extension of three years for the benefit period. Since the Company has had no taxable income, the benefits have not yet commenced for any of the programs.

The period of tax benefits, detailed above, is subject to a limit of 12 years from the commencement of production, or 14 years from the approval date, whichever is earlier. The year's limitation does not apply to the exemption period.

The entitlement to the above benefits is conditional upon the Company's fulfilling the conditions stipulated by the Law, regulations published thereunder and the letters of approval for the specific investments in "Approved Enterprises". In the event of failure to comply with these conditions, the benefits may be canceled and the Company would be required to refund the amount of tax benefits, plus a consumer price index linkage adjustment and interest.

As of December 31, 2011, management believes that the Company will be able to meet all of the aforementioned conditions.

If these retained tax-exempt profits attributable to the "Approved Enterprise" are distributed in a manner other than in the complete liquidation of the Company, they would be taxed at the corporate tax rate at the applicable rate (10%-25%) in respect of the gross amount of the amount that the Company distributed. The Company is required to withhold tax at the source at a rate of 15% from any dividends distributed from income derived from the Approved Enterprise.

Income from sources other than the "Approved Enterprise" during the benefit period will be subject to tax at the regular corporate tax rate.

**NOTE 11:- INCOME TAXES (Cont.)**

On April 1, 2005, an amendment to the Law came into effect ("the Amendment") and has significantly changed the provisions of the Law. The Amendment limits the scope of enterprises, which may be approved by the Investment Center by setting criteria for the approval of a facility as a Beneficiary Enterprise such as provision generally requiring that at least 25% of the Beneficiary Enterprise's income will be derived from export. Additionally, the Amendment enacted major changes in the manner in which tax benefits are awarded under the Law so that companies no longer require Investment Center approval in order to qualify for tax benefits.

If the Company pays a dividend out of income derived from the Beneficiary Enterprise during the tax exemption period, such income will be subject to corporate tax at the applicable rate (10%-25%) in respect of the gross amount of the dividend that the Company may be distributed. The Company is required to withhold tax at the source at a rate of 15% from any dividends distributed from income derived from the Beneficiary Enterprise. Under the Amendment, the benefit period for the Company will be extended until the earlier of (1) seven years from the commencement year or (2) twelve years from the first day of the year of election. This period may be extended for a Beneficiary Enterprise owned by a "foreign investor's company" during all or part of the benefit period.

However, the Amendment provides that terms and benefits included in any letter of approval already granted will remain subject to the provisions of the Law as they were on the date of such approval.

As of December 31, 2011, the Company did not generate income under the Law prior to and after the Amendment.

Amendments to the Law:

In December 2010, the "Knesset" (Israeli Parliament) passed the Law for Economic Policy for 2011 and 2012 (Amended Legislation), 2011, which prescribes, among others, amendments to the Law. The amendment became effective as of January 1, 2011. According to the amendment, the benefit tracks in the Law were modified and a flat tax rate applies to the Company's entire preferred income. The Company will be able to opt to apply (the waiver is non-recourse) the amendment and from then on it will be subject to the amended tax rates that are: 2011 and 2012 - 15% (in development area A - 10%), 2013 and 2014 - 12.5% (in development area A - 7%) and in 2015 and thereafter - 12% (in development area A - 6%).

The Company examined the possible effect of the amendment on the financial statements, if at all, and at this time do not believe it will opt to apply the amendment.

U.S. dollars in thousands (except share and per share data)

## NOTE 11:- INCOME TAXES (Cont.)

d. Tax rates applicable to the income of the Company:

Taxable income of the Company is subject to tax at the rate of 26% in 2009, 25% in 2010 and 24% in 2011.

On December 5, 2011, the Israeli Parliament (the Knesset) passed the Law for Tax Burden Reform (Legislative Amendments), 2011 ("the Law") which, among others, cancels effective from 2012, the scheduled progressive reduction in the corporate tax rate. The Law also increases the corporate tax rate to 25% in 2012. In view of this increase in the corporate tax rate to 25% in 2012, the real capital gains tax rate and the real betterment tax rate were also increased accordingly.

e. Deferred income taxes:

Deferred income taxes reflect the net tax effects of temporary differences between the carrying amounts of assets and liabilities for financial reporting purposes and the amounts used for income tax purposes. Significant components of the Company's deferred tax assets are as follows:

| | December 31, | |
|---|---|---|
| | 2011 | 2010 |
| Tax asset in respect of: | | |
| Operating loss carryforward and deductions | $ 22,642 | $ 17,081 |
| Reserves, allowances and other | 15 | 54 |
| Net deferred tax asset before valuation allowance | 22,657 | 17,135 |
| Valuation allowance | (22,657) | (17,135) |
| Net deferred tax asset | $ - | $ - |

As of December 31, 2011 and 2010, the Company has provided valuation allowances of $22,657 and $17,135, respectively, in respect of deferred tax assets resulting from tax loss carryforward and other temporary differences. Management currently believes that since the Company has a history of losses it is more likely than not that the deferred tax regarding the loss carryforward and the other temporary differences will not be realized in the foreseeable future.

## NOTE 11:- INCOME TAXES (Cont.)

f. The main reconciling item between the statutory tax rate of the Company and the effective tax rate is the recognition of valuation allowances in respect of deferred taxes relating to accumulated net operating losses carried forward among the various subsidiary worldwide due to the uncertainty of the realization of such deferred taxes and the effect of the "Approved Enterprise".

g. Net operating losses carryforward:

The Company has estimated accumulated losses for tax purposes as of December 31, 2011, in the amount of approximately $71,810, which may be carried forward and offset against taxable income in the future for an indefinite period. The Company's subsidiary in Israel has estimated accumulated losses for tax purposes as of December 31, 2011, in the amount of approximately $448 which may be carried forward and offset against taxable income in the future for an indefinite period. The Company's subsidiary in the United States has estimated total available carryforward tax losses as of December 31, 2011 of approximately $10,788 to offset against future tax profits.

h. Income taxes for the twelve months ended December 31, 2011 and 2010:

The Company and its subsidiary have not recorded any tax expenses during the 12 months ended December 31, 2011 and 2010, as the Company has losses.

i. The Company adopted the provisions of ASC 740 for uncertain tax positions on January 1, 2007, and there was no effect on the financial statements. As a result, the Company did not record any cumulative effect related to adopting ASC 740 for uncertain tax positions. The Company did not record a liability deriving from the implementation of ASC 740 for uncertain tax positions.

U.S. dollars in thousands (except share and per share data)

## NOTE 12:- FINANCIAL INCOME

| | 2011 |
|---|---|
| Financial income: | |
| Interest income on short-term deposits | $ |
| Interest and realized gain on marketable securities | |
| Foreign currency adjustments gains and other | |
| Revaluation of warrants related to share purchase agreement | |
| | |
| Financial expenses: | |
| Bank and interest expenses | |
| Foreign currency adjustments losses | |
| Realized loss on marketable securities | |
| Issuance cost derived from warrants related to share purchase agreement | |
| Others | |
| | |
| | $ |

## NOTE 13:- RELATED PARTY TRANSACTIONS

a. In June 2003, the Company entered into a license agreement with a company owned by a shareholder of the Company to use its intellectual property for a period of 20 years for consideration of up to $100. During the years 2011, 2010 and 2009, expenses of $0, $0 and $80 were recorded, respectively.

As of December 31, 2011, the Company has no further obligation in connection with this transaction.

b. On December 24, 2008, the Company entered into an Exclusive Testing and Administrative Services Agreement with another company, pursuant to which the other company has the exclusive right to distribute the Company's current diagnostic tests in Turkey and Israel. One of the Company's directors has served as Vice Chairman and Chairman of the Research and Development Committee in the other company's board of directors since 1991. In 2011 and 2010, the Company received $40 and $23 under this agreement, respectively. On May 9, 2011 the director has resigned from the Company's Board of Directors

## NOTE 14:- SUBSEQUENT EVENTS

On January 27, 2012, the Company has sold an aggregate of $1.75 million in senior secured debentures in a private placement transaction with an accredited investor.

The debentures have a maturity date of January 26, 2013 and accrue interest at a rate of 10% per annum, payable semi-annually. An aggregate of $300 in principal amount of the debentures may be converted into the Company's ordinary shares at a conversion price of $0.0944 per share. The debentures are secured by a security interest in all current and future assets of the Company and any current or future subsidiary.

**EXHIBIT 2.15**

# SECURED LOAN AGREEMENT

**THIS SECURED LOAN AGREEMENT**, dated as of January 26, 2012, is entered into by and between **ROSETTA GENOMICS LTD.**, a corporation incorporated under the laws of the State of Israel, with headquarters located at 10 Plaut Street, Science Park, Rehovot 76706, Israel (the "Company"), and each individual or entity named on an executed counterpart of the signature page hereto (each such signatory is referred to as a "Lender") (each agreement with a Lender being deemed a separate and independent agreement between the Company and such Lender, except that each Lender acknowledges and consents to the rights granted to each other Lender [each, an "Other Lender"] under such agreement and the Transaction Agreements, as defined below, referred to therein).

**WITNESSETH**:

**WHEREAS,** the Company is seeking to borrow $1,750,000.00 (the "Aggregate Loan Principal") on the terms contemplated in this Agreement and in the Transaction Agreements; and

**WHEREAS**, the Company and the Lender are executing and delivering this Agreement in accordance with and in reliance upon the exemption from securities registration for offers and sales to accredited investors afforded, inter alia, by Rule 506 under Regulation D as promulgated by the United States Securities and Exchange Commission (the "SEC") under the Securities Act of 1933, as amended (the "1933 Act"), and/or Section 4(2) of the 1933 Act and in reliance upon the exemption from publication of prospectus set forth in section 15A(a)(1) of the Israeli Securities Law, 1968 ;

**WHEREAS**, each Lender wishes to lend funds in the amount of the Loan Principal (as defined below) to the Company on the Closing Date, as defined below), subject to and upon the terms and conditions of this Agreement and acceptance of this Agreement by the Company, all on the terms and conditions referred to herein; and

**WHEREAS,** in connection with the loan to be made by the Lender, the Company has agreed to issue the Debentures to the Lender, the repayment of which will be (i) represented by one or more Senior Secured Convertible Debentures of the Company (each, a "Debenture"), as provided herein, and (ii) secured by a grant of a security interest in the assets of the Company, including, but not limited to, the patents and other intellectual property owned by the Company;

**WHEREAS,** the Company and the Licensee have agreed to negotiate in good faith an exclusive perpetual license to Gensignia, Inc. (the "Licensee"), on the terms and conditions referred to in **Annex II** annexed hereto (the "License") of certain of the patents held by the Company in the United States and in other jurisdictions throughout the world, for a one-time license fee of $1,250,000.00 (the "License Fee") to be paid on the execution and delivery of the Definitive License Agreement (defined below), with the License being effective as of such date (collectively, the "License Transaction"); provided, that, in furtherance thereof, immediately following the Closing Date, the Company and the Licensee will negotiate the terms of the detailed agreement (the "Definitive License Agreement"), to be executed and delivered by the Company to the Licensee no later than February 29, 2012, or such later date as may be mutually agreed to by the Company and the Licensee (the "Definitive Agreement Date");

**NOW THEREFORE**, in consideration of the premises and the mutual covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties agree as follows:

**1. AGREEMENT TO LEND; LOAN PRINCIPAL AMOUNT.**

**a. Loan.**

(i) Subject to the terms and conditions of this Agreement and the other Transaction Agreements (as defined below), the Lender hereby agrees to loan to the Company the principal amount specified on the Lender's signature page of this Agreement (the "Loan Principal"), of which a portion, specified on the Lender's signature page shall be convertible, at the Lender's discretion to the Company's Common Stock, as specified herein. The aggregate total of the Lender's Loan Principal and the Loan Principal of all Other Lenders will be equal to the Aggregate Loan Principal.

(ii) The obligation to repay the Loan Principal and any interest accrued thereon under this Agreement from the Lender shall be evidenced by the Company's issuance of one or more Debentures to the Lender in the aggregate principal amount of the Lender's Loan Principal. Each Debenture shall be payable on the Maturity Date (as defined in the Debenture). Each Debenture shall be substantially in the form of **Annex I** annexed hereto. Repayment of the Debenture shall be secured under the terms of the Security Interest Provisions annexed hereto as **Annex V** (the "Security Interest Agreement"), which refer to the Company, as debtor, and the Lender, as secured party. By signing this Agreement, each of the Lender and the Company agrees to all of the terms and conditions of, and becomes a party to, the Security Interest Agreement, all of the provisions of which are incorporated herein by this reference as if set forth in full.

(iii) The loan to be made by the Lender and the issuance of the Debentures (the "Purchased Securities") to the Lender and the other transactions (other than the License Transaction) contemplated hereby are sometimes referred to herein and in the other Transaction Agreements as the purchase and sale of the Purchased Securities, and such transactions and the License Transaction are sometimes referred to collectively as the "Transactions."

**b. Certain Definitions.** As used herein, each of the following terms has the meaning set forth below, unless the context otherwise requires:

"1934 Act" means the Securities and Exchange Act of 1934, as amended.

"Affiliate" means, with respect to a specific Person referred to in the relevant provision, another Person who or which controls or is controlled by or is under common control with such specified Person.

"Business Day" means any day other than a Saturday, a Sunday or a day on which banking institutions in New York City or Tel Aviv, Israel are authorized by Law or executive order to remain closed.

"Certificate of Incorporation" means the certificate of incorporation, articles of incorporation or association or other charter documents (howsoever denominated) of the Company, as amended to date.

"Certificates" means the ink-signed Debentures, each duly executed by the Company and issued on the Closing Date in the name of the Lender.

"Closing Date" means the date of the closing of loan for the Aggregate Loan Principal and the issuance and delivery of the Certificates, as provided herein.

"Common Stock" means the Ordinary Shares, par value NIS 0.04, of the Company.

"Company Group" means the Company and any current or future Subsidiary; any entity included in the Company Group is a "Company Group Member."

"Company's SEC Documents" means all reports filed by the Company with the SEC during the period commencing on January 1, 2011 and continuing through the date of the Secured Loan Agreement which are available for review on EDGAR at least two Business Days prior to the Closing Date

"Conversion Shares" means the shares of Common Stock issuable upon the conversion of the Debentures or in payment of certain interest payments, each in accordance with the terms of the Debentures.

"Disclosure Annex" means **Annex IV** to this Agreement; provided, however, that the Disclosure Annex shall be arranged in sections corresponding to the identified Sections of this Agreement, but the disclosure in any such section of the Disclosure Annex shall qualify other provisions in this Agreement to the extent that it would be readily apparent to an informed reader from a reading of such section of the Disclosure Annex that it is also relevant to other provisions of this Agreement.

"Existing Company Agreement" means any indenture, mortgage, deed of trust, or other material agreement or instrument to which the Company is a party and which has not expired or been terminated or by which it or any of its properties or assets are bound, including, if relevant, any listing agreement for the Common Stock.

"Holder" means the Person holding the relevant Purchased Securities at the relevant time.

"Institution" means each institution named as an "Institution" in the Intellectual Property Annex or any two or more of them, as the context may require.

"Intellectual Property Annex" means **Annex III** attached hereto, which provides a list of all Patents and all Other Intellectual Property (i) held by the Company or any other Company Group Member, or licensed from other parties by the Company or any other Company Group Member, in the United States and in other jurisdictions and (ii) licensed or sublicensed by the Company or any other Company Group Member to other parties.

"Lender Representative" has the meaning ascribed to in Section 4(i).

"Major Transaction" has the meaning ascribed to in Section 4(g).

"Material Adverse Effect" means (x) a material adverse effect on the legality, validity or enforceability of the Securities, the License, or any of the Transaction Agreements, (y) a material adverse effect on the results of operations, assets, or financial condition of the Company and its subsidiaries, taken as a whole, or (z) an adverse impairment of the Company's ability to perform fully on a timely basis its material obligations under any of the Transaction Agreements or the transactions contemplated thereby, all except for any such effects or impairments resulting, directly or indirectly, from (i) the public announcement of, or performance of the transactions contemplated by or pursuant to, the Transaction Agreements, (ii) changes in GAAP or any Applicable Laws, (iii) changes in the industry in which the Company and its Subsidiary operate, (iv) changes in general economic conditions or the financial or securities markets generally, or (v) any adverse change or effect that is cured by the Company prior to the Closing Date, but only to the extent that any such change described in clauses (ii) and (iii) is not specifically related to or disproportionately impacts the Company or the Company's Subsidiary.

"Other Intellectual Property" means trademarks, trademark applications and copyrights.

"Other Registration Statement" has the meaning ascribed to it in Section 4(l).

"Patents" means the patents identified in the Intellectual Property Annex (i) as being owned by the Company or any other Company Group Member in the United States or any other jurisdiction, or (ii) as being subject to a current application for a patent in the United States or any other jurisdiction.

"Person" means any living person or any entity, such as, but not necessarily limited to, a corporation, partnership or trust.

"Placement Agent" means Aegis Capital Corp.

"Placement Agent Compensation" means an amount equal to 5.5% of the Aggregate Loan Principal, which is payable by the Company to the Placement Agent on the Closing Date.

"Securities" means any or all of the Purchased Securities or the Conversion Shares.

"State of Incorporation" means (i) for the Company, the State of Israel, and (ii) for each other Company Group Member, the state of its incorporation of organization.

"Subsidiary" means, as of the relevant date, any entity which is owned or controlled by the Company, whether now existing or hereafter acquired or created; a list of the Company's current Subsidiaries and their respective States of Incorporation is included in the Disclosure Annex.

"Transaction Agreements" means this Secured Loan Agreement, the Debentures, the Disclosure Annex, the Security Interest Agreement, all documents and instruments executed heretofore or hereafter with respect to the License Transaction, and includes all ancillary documents referred to in those agreements.

"Wire Instructions" means the wire instructions as provided separately in writing by the Company to the Lender; provided, however, that the account identified in such instructions shall be an account maintained in the name of the Company or a Company Group Member.

**c. Form of Payment; Delivery of Certificates.** With respect to the Closing Date:

(i) no later than the Closing Date, each Lender shall pay such Lender's Loan Principal to the Company, by delivering, by wire transfer of funds as provided in the Wire Instructions, immediately available good funds equal to that amount in United States Dollars to the Company; and

(ii) no later than the Closing Date, the Company shall deliver the Certificates, each duly executed on behalf of the Company and issued in the name of each Lender, to such Lender (or the party designated by such Lender in a separate writing provided to the Company);

In each case, such funds and such Certificates to be held by or for the Company or the Lender, as the case may be, pending the closing of the Transactions to be consummated on the Closing Date.

**2. LENDER REPRESENTATIONS, WARRANTIES, ETC.; ACCESS TO INFORMATION; INDEPENDENT INVESTIGATION.**

The Lender represents and warrants to the Company, as of the date of the execution and delivery hereof and as of the Closing Date, that:

**a.** Without limiting Lender's right to sell the Securities pursuant to an effective registration statement, if any, or otherwise in compliance with the 1933 Act, the Lender is receiving the Securities for its own account for investment only and not with a view towards the public sale or distribution thereof and not with a view to or for sale in connection with any distribution thereof.

**b.** The Lender is (i) an "accredited investor" as that term is defined in Rule 501 of the General Rules and Regulations under the 1933 Act by reason of Rule 501(a)(3), (ii) experienced in making investments of the kind described in this Agreement and the related documents, (iii) able, by reason of the business and financial experience of its officers (if an entity) and professional advisors (who are not affiliated with or compensated in any way by the Company or any of its Affiliates or selling agents), to protect its own interests in connection with the transactions described in this Agreement, and the related documents, and to evaluate the merits and risks of an investment in the Securities, and (iv) able to afford the entire loss of its investment in the Securities. The Lender is not an Israeli citizen or resident of the State of Israel.

**c.** All subsequent offers and sales of the Securities by the Lender shall be made either pursuant to registration of the relevant Securities under the 1933 Act or pursuant to an exemption from registration.

**d.** The Lender understands that the Securities are being offered and sold to it in reliance on specific exemptions from the registration requirements of the 1933 Act and state securities laws and that the Company is relying upon the truth and accuracy of, and the Lender's compliance with, the representations, warranties, agreements, acknowledgments and understandings of the Lender set forth herein in order to determine the availability of such exemptions and the eligibility of the Lender to receive the Securities.

**e.** The Lender and its advisors, if any, have been furnished with or have been given access to all materials relating to the business, finances and operations of the Company and materials relating to the offer and possible sale of the Securities which have been requested by the Lender, including those set forth on in any annex attached hereto. The Lender and its advisors, if any, have been afforded the opportunity to ask questions of the Company and its management and have received complete and satisfactory answers to any such inquiries.

**f.** The Lender understands that its investment in the Securities involves a high degree of risk.

**g.** If the Lender is not a United States person (as defined by Section 7701(a)(30) of the Internal Revenue Code, as currently in effect), such Lender hereby represents that it has satisfied itself as to the full observance of the laws of its jurisdiction in connection with any invitation to subscribe for the Securities or any use of this Agreement, including (i) the legal requirements within its jurisdiction for the possible purchase of the Securities, (ii) any foreign exchange restrictions applicable to such purchase, (iii) any governmental or other consents that may need to be obtained, and (iv) the income tax and other tax consequences, if any, that may be relevant to the purchase, holding, redemption, sale, or transfer of the Securities. The Lender's subscription and payment for and continued beneficial ownership, if any, of the Securities will not violate any applicable securities or other laws of the Lender's jurisdiction.

**h.** If the Lender is an individual, then the Lender resides in the state or province identified in the address of the Lender set forth on the Lender's signature page to this Agreement. If the Lender is a partnership, corporation, limited liability company or other entity, then the office or offices of the Lender in which its principal place of business is the address or addresses of the Lender set forth on the Lender's signature page to this Agreement.

**i.** If the Lender is a corporate entity**,** the Lender has the requisite corporate power and authority to enter into and perform its obligations under this Agreement and the Transaction Agreements to which the Lender is a party. This Agreement and each of the other Transaction Agreements to which the Lender is a party, and the transactions contemplated hereby and thereby, have been duly and validly authorized by the Lender and if the Lender is a corporate entity then all corporate actions on the part of the Lender necessary for the authorization, execution, delivery, and performance of all of the Lender's obligations under this Agreement have been duly and lawfully taken. This Agreement has been executed and delivered by the Lender, and this Agreement is, and each of the other Transaction Agreements to which the Lender is a party, when executed and delivered by the Lender (if necessary), will be valid and binding obligations of the Lender enforceable in accordance with their respective terms, subject as to enforceability to applicable bankruptcy, insolvency, moratorium and other similar laws affecting generally the enforcement of creditors' rights and remedies or by other equitable principles of general application, and no further consent or authorization of the Lender or its organs is required.

**j.** The Company has not, and will not, incur, directly or indirectly, as a result of any action taken by the Lender, any liability for brokerage or finders' fees or agents' commissions or any similar charges in connection with this Agreement except for the Placement agent Compensation.

K. Holder will use reasonable efforts to cooperate with Company for the maintaining of the Company's NASDAQ listing.

**3. COMPANY REPRESENTATIONS, ETC.** The Company represents and warrants to the Lender, in respect of the Company and any Company Group Member, as of the date of the execution and delivery hereof and as of the Closing Date, that, except as otherwise provided in the Disclosure Annex or in the Company's SEC Documents:

**a. Due Authorization** The Company has the requisite corporate power and authority to enter into and perform its obligations under this Agreement and the Transaction Agreements and to issue the Securities; (b) the execution and delivery of this Agreement and the Transaction Agreements by the Company and the consummation by it of the transactions contemplated hereby and thereby have been duly authorized by all necessary corporate action and no further consent or authorization of the Company or its Board of Directors or stockholders is required; and (c) each of this Agreement and the Transaction Agreements has been duly executed and delivered by the Company and constitute valid and binding obligations of the Company enforceable against the Company in accordance with their respective terms, subject to applicable bankruptcy, insolvency, or similar laws relating to, or affecting generally the enforcement of, creditors' rights and remedies or by other equitable principles of general application.

**b. Capitalization.** The authorized capitalization of the Company is as set forth the Disclosure Annex. Except as set forth in the SEC Documents, the Company has not issued any capital stock since its most recently filed SEC Documents, other than pursuant to the exercise of employee stock options under the Company's stock option plans, the issuance of Ordinary Shares to employees pursuant to the Company's employee stock purchase plans and pursuant to the conversion and/or exercise of warrants outstanding as described in the SEC Documents. Except for (i) warrants to purchase approximately 4,340,142 shares of Common Stock with exercise prices ranging between $0.50 and $10.00 per share and (ii) options to purchase approximately 492,136 shares of Common Stock with exercise prices ranging between $0.00 and $35.20 per share, there were no options, warrants, or rights to subscribe to, securities, rights or obligations convertible into or exchangeable for or giving any right to subscribe for any shares of capital stock of the Company. All of the outstanding shares of Common Stock of the Company have been duly and validly authorized and issued and are fully paid and nonassessable.

**c. Rights of Others Affecting the Transactions.** There are no preemptive rights of any shareholder of the Company, as such, to acquire the Purchased Securities or to enter into any other part of the Transactions. No party has a currently exercisable right of first refusal which would be applicable to any or all of the transactions contemplated by the Transaction Agreements.

**d. Status.** The Company is a corporation duly organized, validly existing and in good standing under the laws of the State of Israel and has the requisite corporate power to own its properties and to carry on its business as now being conducted. The Company is duly qualified as a foreign corporation to do business and is in good standing in each jurisdiction where the nature of the business conducted or property owned by it makes such qualification necessary, other than those jurisdictions in which the failure to so qualify would not have or result in a Material Adverse Effect.

**e. intentionally left blank**

**f. Securities Law Matters; Approvals.**

(i) The Company has registered the Common Stock pursuant to Section 12(b) or 12(g) of the Exchange Act and is in full compliance with all reporting requirements of the Exchange Act, and, except as provided in the Disclosure Annex, the Company has maintained all requirements for the continued listing or quotation of the Common Stock, and such Common Stock is currently listed or quoted on the Principal Market. As of the date of this Agreement, the Principal Market is the NASDAQ Capital Market and the shares of the Company are not listed or quoted for trading on any other market. For purposes of the Transaction Documents, Principal Market shall not include OTC BB or any other similar over the counter exchange.

(ii) No authorization, approval or consent of any court, governmental body, regulatory agency, self-regulatory organization, or stock exchange or market or the stockholders of the Company is required to be obtained by the Company for the issuance and sale of the Securities to the Lender as contemplated by this Agreement, except such authorizations, approvals and consents that have been obtained.

(iii) Assuming the accuracy of the representations and warranties of the Holder set forth in Section 2, the offer and sale by the Company of the Purchased Securities is exempt from the registration and prospectus delivery requirements of the 1933 Act and the rules and regulations of the SEC thereunder and of the Israeli Securities Act (5728-1968) and any regulations thereunder.

**g. Non-contravention.** The execution and delivery of this Agreement and each of the other Transaction Agreements by the Company, the issuance of the Purchased Securities in accordance with the terms hereof, (including but not limited to the conversion of the Debentures into Common Stock) and the consummation by the Company of the other transactions contemplated by this Agreement, the Debentures and the other Transaction Agreements do not and will not

(i) conflict with or result in a breach by the Company of any of the terms or provisions of, or constitute a default under (A) the Certificate of Incorporation, including the Company's Articles of Association, as currently in effect, (C) any Existing Company Agreement, except as set forth in the Disclosure Annex, or (D) any existing applicable law, rule, or regulation or any applicable decree, judgment, or order of any court, any Israeli or United States federal or state regulatory body, administrative agency, or other governmental body having jurisdiction over the Company or any of its properties or assets, except such conflict, breach or default which would not have or result in a Material Adverse Effect, and

(ii) except as contemplated hereby, (A) result in the creation or imposition of any lien, charge or encumbrance upon the Purchased Securities, the Conversion Shares or any of the assets of the Company or any other Company Group Member; or (B) result in (1) the activation of any anti-dilution rights or a reset or repricing of any debt or security instrument of any other creditor or equity holder of the Company, or (2) the acceleration of the due date of any obligation of the Company; (C) result in the activation of any piggy-back registration rights of any person or entity holding securities of the Company or having the right to receive securities of the Company, or (D) result in any payment of any amount or acceleration of any future payment, grant or funding from the State of Israel or the Ministry of Industry and Trade or the Office of the Chief Scientist. The timely payment of interest on the Debentures is not prohibited by the Certificate of Incorporation, or any agreement, contract, document or other undertaking to which the Company is a party.

**h. Absence of Events of Default.** Except as set forth in this Section 3, (A) neither the Company nor any other Company Group Member is in breach of, or in default in the performance or observance of, any material obligation, agreement, covenant or condition contained in any material Existing Company Agreement, and (B) no Event of Default (or its equivalent term), as defined in the respective Existing Company Agreement, and no event which, with the giving of notice or the passage of time or both, would become an Event of Default (or its equivalent term) (as so defined in such Existing Company Agreement), has occurred and is continuing.

**i. Technology.**

(i) Subject only to the rights and interests of the Licensee as provided in the License Transaction and to any other rights and interests of third parties described in the Intellectual Property Annex, the Company or the relevant other Company Group Member owns, and to the exclusion of all other Parties, except as specified, is the sole owner of, each of the Patents and Other Intellectual Property identified in the Intellectual Property Annex, including, but not necessarily limited to, all patents with respect thereto issued by any relevant authority anywhere in the world and all patent applications with respect thereto as have been submitted to any relevant authority anywhere in the world.

(ii) The Company or the relevant other Company Group Member is the licensee of certain intellectual property rights from each of the Institutions as listed on the Intellectual Property Annex and, subject to the Company's compliance with the terms thereof, such license is in full force and effect. The relevant Institution has not provided any notice, in writing or otherwise, regarding any default or potential default by the Company or such other Company Group Member with respect to the relevant license from such Institution or regarding any termination of such license before its stated expiration date, if any.

(iii) Except for the rights and interests of the Licensee under the License Transaction and such other rights specified herein or in the Intellectual Property Annex, no Party has a security interest, lien or other claim in or with respect to any Patent or Other Intellectual Property.

**j. Absence of Litigation.** There is no action, suit, proceeding, inquiry or investigation before or by any court, public board or body pending or, to the knowledge of the Company, threatened against or affecting the Company or any other Company Group Member before or by any governmental authority or non-governmental department, commission, board, bureau, agency or instrumentality or any other person, wherein an unfavorable decision, ruling or finding would have a Material Adverse Effect or which would adversely affect the validity or enforceability of, or the authority or ability of the Company to perform its obligations under, any of the Transaction Agreements. The Company is not aware of any valid basis for any such claim that (either individually or in the aggregate with all other such events and circumstances) could reasonably be expected to have a Material Adverse Effect. There are no outstanding or unsatisfied judgments, orders, decrees, writs, injunctions or stipulations to which the Company is a party or by which it or any of its properties is bound, that involve the transaction contemplated herein or that, alone or in the aggregate, could reasonably be expect to have a Material Adverse Effect.

**k. Certificate of Incorporation**. The Company has furnished or made available to Holder true and correct copies of the Company's Certificate of Incorporation, as amended and in effect on the date hereof .

**l. Fees to Brokers, Placement Agents and Others.** The Company has taken no action which would give rise to any claim by any Person for brokerage commission, finder's fees or similar payments by Lender relating to this Agreement or the transactions contemplated hereby. Notwithstanding the foregoing, the Company acknowledges that it has agreed to pay in connection with the Transactions contemplated hereby the Placement Agent's Compensation to the Placement Agent. Except for such fees arising as a result of any agreement or arrangement entered into by the Lender without the knowledge of the Company (a "Lender's Fee"), Lender shall have no obligation with respect to such fees or with respect to any claims made by or on behalf of the Placement Agent or by other Persons for fees of a type contemplated in this paragraph that may be due in connection with the transactions contemplated hereby. The Company shall indemnify and hold harmless each Lender, its employees, officers, directors, agents, and partners, and their respective Affiliates, from and against all claims, losses, damages, costs (including the costs of preparation and attorney's fees) and expenses suffered in respect of any such claimed or existing fees (other than a Lender's Fee).

**m. Full Disclosure.** To the Company's knowledge, there is no fact known to the Company (other than general conditions known to the public generally) that has not been disclosed in writing to the Lender that would reasonably be expected to have or result in a Material Adverse Effect. The Company has no undisclosed liabilities other than in the ordinary course of business (which individually or in the aggregate do not have a Material Adverse Effect) and there are no events or circumstances (other than the transactions contemplated hereby) requiring public disclosure which have not been disclosed.

**n. Confirmation.** All representations made by or relating to the Company of a historical or prospective nature shall relate and refer to the Company, its predecessors, and the Subsidiaries. The Company agrees that, if any events occur or circumstances exist prior to the consummation of any part of this transaction on the Closing Date which would make any of the Company's representations, warranties, agreements or other information set forth herein materially untrue or materially inaccurate as of such date, the Company shall immediately notify the Lender in writing prior to such date of such fact, specifying which representation, warranty or covenant is affected and the reasons therefor.

**o. Filings, Approvals**. The Company is not required under any Israeli or United States federal, state or local law, rule or regulation to obtain any consent, authorization or order of, or make any filing or registration with, any court or governmental agency in order for it to execute, deliver or perform any of its obligations under this Agreement or issue and sell the Common Stock in accordance with the terms hereof (other than any SEC, NASDAQ Capital Market, FINRA or state securities filings that may be required to be made by the Company in connection with any Closing, any registration statement that may be filed pursuant hereto, and any shareholder approval required by the rules applicable to companies whose common stock trades on the NASDAQ Capital Market); provided that, for purposes of the representation made in this sentence, the Company is assuming and relying upon the accuracy of the relevant representations and agreements of Holder herein.

**p.** **Liens.** Except as set forth in Annex 1 of the Security Interest Agreement, the Company has good and marketable title to all of the properties and assets, both real and personal, tangible and intangible, that it purports to own, including the properties and assets reflected in the Financial Statements, and they are not subject to any mortgage, pledge, lien, security interest, conditional sale agreement, encumbrance or charge.

**q.** **Government Funding.** The Company is in compliance in all material respects with all conditions and requirements relating to the funding that it has received from the Israeli Ministry of Industry Trade and Labor and has not been notified of any default or acceleration of the repayment of such funding. The License shall not cause any royalties or acceleration of repayment obligations of any government funding.

**4. CERTAIN COVENANTS AND ACKNOWLEDGMENTS.**

**a.** **Transfer Restrictions.** The Lender acknowledges that (1) the Securities have not been and are not being registered under the provisions of the 1933 Act, and may not be transferred unless (A) subsequently registered thereunder or (B) the Lender shall have delivered to the Company an opinion of counsel, reasonably satisfactory in form, scope and substance to the Company, to the effect that the Securities to be sold or transferred may be sold or transferred pursuant to an exemption from such registration; and (2) neither the Company nor any other Person is under any obligation to register the Securities under the 1933 Act or, except as specifically contemplated by the Transaction Agreements or Rule 144 under the Securities Act , to comply with the terms and conditions of any exemption thereunder.

**b.** **Restrictive Legend.** The Lender acknowledges and agrees that, until such time as the relevant Securities have been registered under the 1933 Act and may be sold in accordance with an effective registration statement, or until such Securities can otherwise be sold without restriction, whichever is earlier, the certificates and other instruments representing any of the Securities shall bear a restrictive legend in substantially the following form (and a stop-transfer order may be placed against transfer of any such Securities):

> THESE SECURITIES HAVE NOT BEEN REGISTERED UNDER THE SECURITIES ACT OF 1933, AS AMENDED, OR THE SECURITIES LAWS OF ANY STATE AND MAY NOT BE SOLD OR OFFERED FOR SALE IN THE ABSENCE OF AN EFFECTIVE REGISTRATION STATEMENT FOR THE SECURITIES OR AN OPINION OF COUNSEL OR OTHER EVIDENCE ACCEPTABLE TO THE COMPANY THAT SUCH REGISTRATION IS NOT REQUIRED.

The Company has not provided, and, subject to the requirements of any applicable law, will not provide, any legends or stop transfer instructions except for the foregoing.

**c.** **Filings**. The Company undertakes and agrees to make all filings required to be made by it in connection with the sale of the Securities to the Lender under the 1933 Act, the 1934 Act or any United States state securities laws and the regulations thereof and (ii) the laws of the State of Israel and the regulations thereof, in each case as the same may be applicable to the Company and to provide a copy thereof to the Lender promptly after such filing.

**d.** **Use of Proceeds**. The Company will use the net proceeds received hereunder (excluding amounts paid to the Placement Agent, as contemplated hereby) for general corporate purposes.

**e.** **Technology.** Subject only to the interests and rights of the Licensee contemplated by the License Transaction, from the Closing Date and until the Debentures are no longer outstanding, the Company shall (i) maintain its ownership interest in the Patents and Other Intellectual Property and (ii) continue to, directly or indirectly, (x) prosecute all patent applications with respect thereto, and (y) enforce its rights with respect thereto.

**f.** **Limitation on Certain Transactions.**

(i) The Company agrees that, for the period from the date hereof through the date which is nine (9) months after the Closing Date or until there are no Debentures outstanding, without the prior written consent of the Holders in each instance (which consent may be given or withheld or delayed in the Holder's sole discretion for any reason or no reason whatsoever), the Company will not enter into a written or other agreement to effect, directly or indirectly, a reverse merger however effected including a share exchange or similar transaction, with an entity which is not a public company with shares trading on the NASDAQ Capital Market or other recognized Trading Market. However, this provision shall not apply to any transaction between Company and Licensee.

(ii) The Company agrees that, from the date hereof until there are no Debentures outstanding, without the prior written consent of the Holders in each instance (which consent may be given or withheld or delayed in the Holder's sole discretion for any reason or no reason whatsoever), neither the Company nor any other Company Group Member will sell or otherwise transfer or grant a security in or with respect to any of the Company's assets which are subject to the security interest granted to the Lenders, as contemplated in the Transaction Agreements.

(iii) The Company agrees that, until the earlier of (x) Definitive Agreement Date or (y) the date that the Licensing Agreement is executed and delivered by the Company and Licensee in definitive form or (z) as extended by mutual agreement of the parties, the Company will not hold discussions or otherwise negotiate with any party with respect to either (a) financing, secured or otherwise, convertible or otherwise, or (b) the grant of a license in any of the patents or other intellectual property of the Company or any other Company Group member except for any such licensing discussions with General Electric.

**g. Right of Participation.**

(i) If, during the period from the date of this Agreement and for as long as the Holder holds any of Purchased Securities, the Company or any other member of the Company Group reaches a definitive agreement with any third party regarding any one or more of the following types of transactions, with the intention of facilitating or pursuing (i) an equity or debt financing (ii) the sale, disposal or transfer of all or substantially all of its material assets (other than any rights which might be subject to the license to the Licensee in the Licensing Transaction), (iii) a merger or reverse merger, (iv) a reorganization, or (v) any other transaction that could result in a change in control of the Company (any such transaction, a "Major Transaction"), the Company will give the Holders (or their designees) at least ten (10) Business Days' opportunity to engage in discussion with the Company or other Company Group member to participate in such Major Transaction. The Company and each other relevant Company Group member will provide the Holders (or their designees)with opportunities, terms and access that are no less favorable than that given by the Company or Company Group member to any third party being offered participation in such Major Transaction. In addition, if the lead placement agent or underwriter in an equity or debt financing transaction informs the Company, in its considered opinion, that compliance with this Section 4(g) could negatively affect the Company's ability to complete such financing transaction, then this Section 4(g) shall be inapplicable to such transaction.

(ii) Nothing in this provision constitutes a waiver by the Lender with respect to, or otherwise gives the right to the Company to participate in, a transaction which is prohibited or limited by any other provision of this Agreement or any of the other Transaction Agreements.

(iii) Notwithstanding the above, if a third party interested in conducting a Major Transaction with the Company notifies Company that Holder's exercising Holder's rights of participation will prevent said third party from entering into an agreement with the Company, and Lender did not agree to step in, replace the said third party and assume upon himself all of the said third party's obligations in the transaction, then Holder shall have no right to participate in said transaction.

**h. Certain Agreements**. Any other provision of this Agreement or any of the other Transaction Agreements to the contrary notwithstanding, the Company shall not engage in any offers, sales or other transactions of its securities which would adversely affect the exemption from registration available for the Transactions contemplated by the Transaction Agreements.

**i. Independent Nature of Lenders' Obligations and Rights.** The obligations of each Lender under the Transaction Agreements are several and not joint with the obligations of any Other Lender, and no Lender shall be responsible in any way for the performance of the obligations of any Other Lender under any one or more of the Transaction Agreements. The decision of each Lender or Other Lender to lend its share of the Loan and receipt of Securities for said Loan pursuant to the Transaction Agreements has been made by such Lender independently of any Other Lender and independently of any information, materials, statements or opinions as to the business, affairs, operations, assets, properties, liabilities, results of operations, condition (financial or otherwise) or prospects of the Company or of its subsidiaries, if any, which may been made or given by any Other Lender or any of their respective officers, directors, principals, employees, agents, counsel or representatives (collectively, including the Lender, the "Lender Representatives"). No Lender Representative shall have any liability to any Other Lender or the Company relating to or arising from any such information, materials, statements or opinions, if any. The Company acknowledges that, for reasons of administrative convenience, (x) the Transaction Agreements have been prepared by counsel and such counsel does not represent any or all of the Lenders with respect to the transactions contemplated hereby, and each other Lender has retained its own counsel (or had the opportunity to do so) with respect to such transactions, and (y) the Company has elected to provide each of the Lenders with the same Transaction Agreements for the purpose of closing a transaction with multiple Lenders and not because it was required or requested to do so by any Lender. In furtherance of the foregoing, and not in limitation thereof, the Company acknowledges that nothing contained in this Agreement or in any Transaction Agreement, and no action taken by any Lender pursuant thereto, shall be deemed to constitute any two or more Lenders constituting or acting as a partnership, an association, a joint venture or any other kind of entity, or create a presumption that the Lenders are in any way acting in concert or as a group with respect to such obligations or the transactions contemplated by the Transaction Agreements.

**j. Equal Treatment of Lenders.** No consideration shall be offered or paid to any Holder to amend or consent to a waiver or modification of any provision of any of the Transaction Agreements unless the same consideration is also offered to all of the Holders

**k. Independent Investment Decision.** No Lender has agreed to act with any Other Lender for the purpose of acquiring, holding, voting or disposing of the Securities purchased hereunder for purposes of Section 13(d) under the Exchange Act, and each Lender is acting independently with respect to its investment in the Securities. The decision of each Lender to lend and to receive Securities pursuant to this Agreement has been made by such Lender independently of any other loan or purchase and independently of any information, materials, statements or opinions as to the business, affairs, operations, assets, properties, liabilities, results of operations, condition (financial or otherwise) or prospects of the Company or its subsidiaries which may have made or given by any Other Lender or by any agent or employee of any Other Lender, and no Lender or any of its agents or employees shall have any liability to any Other Lender (or any other person) relating to or arising from any such information, materials, statements or opinions.

**l. Intellectual Property.** From the date of this Agreement and for as long as the Holder owns any of the Purchased Securities, the Company shall maintain in full force and effect its corporate existence, rights and franchises and all licenses and other rights to use intellectual property owned or possessed by it and reasonably deemed to be necessary to the conduct of its business as currently conducted.

**m. Additional Negative Covenants.** From the date of this Agreement and for as long as the Holder owns any of the Purchased Securities or Conversion Shares, the Company will not amend its Certificate of Incorporation, as to adversely affect any rights of the Lender.

**n. Confirmation of Certain Representations.** The Company covenants that it will, as long as there is an outstanding sum due to the Holders on account of the Loan, confirm to the Holders in writing quarterly that the representations in Sections 3(h) and 3(m) are still current.

**o. Covenant to Negotiate Definitive License Agreement.** The Company covenants with the Lenders that the Company will negotiate in good faith with the Licensee, who shall also negotiated in good faith, with respect to the terms of the Definitive License Agreement, in an effort to complete negotiations and execute and deliver the Definitive License Agreement, in form and substance satisfactory to the Licensee and the Company, no later than February 29, 2012.

**p. Listing of Common Stock.** The Company has filed a *Notification Form: Listing of Additional Shares* with the Principal Market covering the Conversion Shares. The Company shall use its commercially reasonable efforts to continue the listing and trading of the Common Stock on the Principal Market and will comply in all respects with the Company's reporting, filing and other obligations under the bylaws or rules of the Principal Market. Nothing contained herein shall require the Company to effect a reverse split of its ordinary shares. If applicable, each Lender shall vote any Conversion Shares held by such Holder in a manner consistent with the Company's efforts to continue the listing and trading of the Common Stock on the Principal Market.

**q. Reporting Requirements.** The Company shall take all commercially reasonable steps to cause the Common Stock to continue to be registered under Section 12(g) or 12(b) of the Exchange Act, will use its commercially reasonable efforts to comply in all material respects with its reporting and filing obligations under said Act and the rules of the Principal Market , and will not take any action or file any document (whether or not permitted by said Act or the rules thereunder) to terminate or suspend such registration or to terminate or suspend its reporting and filing obligations under said Act.

**r. Reservation of Shares**. For as long as the Debentures are outstanding, the Company will reserve a number of shares of Common Stock equal to 200% of the maximum number of remaining Conversion Shares, as may be determined from time to time. The Company will give written instruction regarding such reservation to the Company's transfer agent.

s. License. To the extent otherwise prohibited under this Agreement, the Company shall seek consent from the Lenders prior to entering into any commercial partnership, distribution, sales agency or other similar arrangement relating to Company's Existing Products (i.e., miRview$^{tm}$mets, miRview$^{tm}$mets2, miRview$^{tm}$squamous, miRview$^{tm}$lung and miRview$^{tm}$meso), which consent shall not be unreasonably withheld or delayed.

**5. FEES.** On the Closing Date, the Company will pay the following fees and other amounts to the parties indicated:

**a.** The Company will pay the Placement Agent's Compensation to the Placement Agent Provided that the Placement Agent will provide the Company at least three business days prior to the Closing Date, with wire instructions for the payment of all amounts payable to the Placement Agent.

**b.** The Company will pay the reasonable and documented fees to counsel in connection with their legal services relating to the Transactions in an aggregate amount not to exceed $50,000.00 and Israeli Value Added Tax on any applicable amounts Each such counsel will provide the Company with wire instructions for the payment of all amounts payable to such counsel.

**6. CLOSING DATE.** The Closing Date shall occur on January 27, 2012 or as soon thereafter as practicable as agreed to by the Parties, provided that each of the conditions contemplated by Sections 7 and 8 hereof shall have either been satisfied or been waived by the party in whose favor such conditions run, or such other time as is mutually agreed upon by the Company and the Lender.

**7. CONDITIONS TO THE COMPANY'S OBLIGATION TO PROVIDE.**

Each Lender understands that the Company's obligation to provide the Purchased Securities to the Lender pursuant to this Agreement on the Closing Date is conditioned upon:

**a.** The execution and delivery of this Agreement by each such Lender;

**b.** The delivery by all Lenders to the Company of good funds as loan in full of an amount equal to the Aggregate Loan Principal in accordance with this Agreement;

**c.** The accuracy on such Closing Date of the representations and warranties of each Lender contained in this Agreement, each as if made on such date, and the performance by each Lender on or before such date of all covenants and agreements of each such Lender required to be performed on or before such date; and

**d.** There shall not be in effect any law, rule or regulation or court order prohibiting or restricting the transactions contemplated hereby, or requiring any consent or approval which shall not have been obtained.

**8. CONDITIONS TO THE LENDER'S OBLIGATION TO RECEIVE.**

The Company understands that the Lender's obligation to receive the Securities on the Closing Date is conditioned upon:

**a.** The execution and delivery of this Agreement and the other Transaction Agreements by the Company, and each of the Transaction Agreements executed by the Company on or before such date shall be in full force and effect and the Company shall not be in default thereunder;

**b.** The delivery by the Company to the Lender of the relevant Certificates in accordance with this Agreement;

**c.** The delivery to the Lender of opinions of counsel for the Company, dated such Closing Date, addressed to the Lender, in form, scope and substance reasonably satisfactory to the Lender, substantially to the effect set forth in **Annex VI** attached hereto (it being understood that portions of such opinion may be provided by United States counsel and portions by Israeli counsel);

**e.** The accuracy in all material respects on such Closing Date of the representations and warranties of the Company contained in this Agreement, each as if made on such date, and the performance by the Company on or before such date of all covenants and agreements of the Company required to be performed on or before such date;

**f.** There shall not be in effect any law, rule or regulation prohibiting or restricting the transactions contemplated hereby, or requiring any consent or approval which shall not have been obtained; and

**g.** The Company shall provide a copy of the duly signed report by the Company to the Israeli Register of Companies creating a security interest according to the terms of the Security Interest Agreement which shall be filed on the business day following the Closing.

h. The Company shall provide a copy of the duly signed Israeli Security Agreement in the form attached hereto as Annex VII to be filed with the Israeli Register of Companies;

i. The Company shall provide a copy of the duly signed and notarized Israeli Power of Attorney in the form attached hereto as Annex VIII authorizing the Lender to take certain actions;

j. The company shall provide a copy of the duly signed documents necessary to register the lien at the Israeli Patents Office; and

k. The delivery of a copy of the duly adopted resolutions of the Board of Directors of the Company approving the Transaction Agreements which have not been rescinded or amended.

**9. JURY TRIAL WAIVER.** The Company and the Lender hereby waive a trial by jury in any action, proceeding or counterclaim brought by either of the Parties hereto against the other in respect of any matter arising out or in connection with the Transaction Agreements.

**10. GOVERNING LAW: MISCELLANEOUS.**

**a.** This Agreement shall be governed by and interpreted in accordance with the laws of the State of New York for contracts to be wholly performed in such state and without giving effect to the principles thereof regarding the conflict of laws. Each of the parties consents to the exclusive jurisdiction of the federal courts whose districts encompass any part of the County of New York or the state courts of the State of New York sitting in the County of New York in connection with any dispute arising under this Agreement or any of the other Transaction Agreements and hereby waives, to the maximum extent permitted by law, any objection, including any objection based on *forum non conveniens*, to the bringing of any such proceeding in such jurisdictions or to any claim that such venue of the suit, action or proceeding is improper. To the extent determined by such court, each Party shall reimburse the Other Parties for any reasonable legal fees and disbursements incurred by the other Parties in enforcement of or protection of any of said Party's rights under any of the Transaction Agreements. Nothing in this Section shall affect or limit any right to serve process in any other manner permitted by law.

**b.** The Company acknowledges and agrees that irreparable damage would occur to the Holder in the event that any material provision of this Agreement or any of the other Transaction Agreements were not performed in accordance with its specific terms or were otherwise breached. The Company accordingly agrees that the Holder shall be entitled to an injunction or injunctions, without the necessity to post a bond, to prevent or cure breaches of the provisions of this Agreement or such other Transaction Agreement and to enforce specifically the terms and provisions hereof or thereof, this being in addition to any other remedy to which the Holder may be entitled by law or equity. This provision is deemed incorporated by reference into each of the Transaction Agreements as if set forth therein in full.

**c.** Failure of any party to exercise any right or remedy under this Agreement or otherwise, or delay by a party in exercising such right or remedy, shall not operate as a waiver thereof.

**d.** This Agreement shall inure to the benefit of and be binding upon the successors and assigns of each of the parties hereto.

**e.** All pronouns and any variations thereof refer to the masculine, feminine or neuter, singular or plural, as the context may require.

**f.** This Agreement may be signed in one or more counterparts each of which shall be deemed an original.

**g.** A facsimile or other electronic transmission of this signed Agreement shall be legal and binding on all parties hereto.

**h.** The headings of this Agreement are for convenience of reference and shall not form part of, or affect the interpretation of, this Agreement.

**i.** If any provision of this Agreement shall be invalid or unenforceable in any jurisdiction, such invalidity or unenforceability shall not affect the validity or enforceability of the remainder of this Agreement or the validity or enforceability of this Agreement in any other jurisdiction.

**j.** This Agreement may be amended only by an instrument in writing signed by the party to be charged with enforcement thereof.

**k.** This Agreement supersedes all prior agreements and understandings among the parties hereto with respect to the subject matter hereof.

**l.** All dollar amounts referred to or contemplated by this Agreement or any other Transaction Agreement shall be deemed to refer to US Dollars, unless otherwise explicitly stated to the contrary.

**m.** Each party shall do and perform, or cause to be done and performed, all such further acts and things, and shall execute and deliver all such other agreements, certificates, instruments and documents, as the other party may reasonably request in order to carry out the intent and accomplish the purposes of this Agreement and the consummation of the transactions contemplated hereby.

**n.** The language used in this Agreement will be deemed to be the language chosen by the parties to express their mutual intent, and no rules of strict construction will be applied against any party.

**o.** **A**s soon as practicable after the Closing Date, the Company may issue a press release disclosing the material terms of the transactions contemplated hereby. As soon as practicable after the Closing Date, the Company also intends to file a Report on Form 6-K disclosing the material terms of the transactions contemplated hereby, which Form 6-K may include the Transaction Documents as exhibits thereto. The Company and Holders shall consult with each other in issuing any other press releases or otherwise making public statements with respect to the transactions contemplated hereby and no party shall issue any such press release or otherwise make any such public statement without the prior written consent of the other parties, which consent shall not be unreasonably withheld or delayed, except that no prior consent shall be required if such disclosure is required by law, in which such case the disclosing party shall provide the other party with prior notice of such public statement. Notwithstanding the foregoing, the Company shall not publicly disclose the name of Holders without the prior written consent of such Holders except to the extent required by law. Holders acknowledge that this Agreement and all or part of the Transaction Agreements may be deemed to be "material contracts" as that term is defined by Item 601(b)(10) of Regulation S-K, and that the Company may therefore be required to file such documents as exhibits to reports or registration statements filed under the Securities Act or the Exchange Act. Holders further agree that the status of such documents and materials as material contracts shall be determined solely by the Company, in consultation with its counsel.

**11**. **NOTICES.** Any notice required or permitted hereunder shall be given in writing (unless otherwise specified herein) and shall be deemed effectively given on the earliest of

(a) the date delivered, if delivered by personal delivery as against written receipt therefor or by confirmed facsimile transmission,

(b) the fifth Business Day after deposit, postage prepaid, in the United States Postal Service by registered or certified mail, or

(c) the third Business Day after mailing by domestic or international express courier, with delivery costs and fees prepaid,

in each case, addressed to each of the other parties thereunto entitled at the following addresses (or at such other addresses as such party may designate by ten (10) days' advance written notice similarly given to each of the other parties hereto):

**COMPANY**:

**LENDER:**

**12. SURVIVAL OF REPRESENTATIONS AND WARRANTIES**. The Company's and the Lender's representations and warranties herein shall survive the execution and delivery of this Agreement and the delivery of the Certificates and the repayment of the Loan, for a period of three (3) years after the Closing Date and shall inure to the benefit of the Lender and the Company and their respective successors and assigns.

[Balance of page intentionally left blank]

**[SECURED LOAN AGREEMENT SIGNATURE PAGE]**

**IN WITNESS WHEREOF**, with respect to the Loan Principal specified below, each of the undersigned represents that the foregoing statements made by it above are true and correct and that it has caused this Agreement to be duly executed on its behalf (if an entity, by one of its officers thereunto duly authorized) as of the date first above written.

**LOAN PRINCIPAL:** $1,750,000
**CONVERTIBLE AMOUNT:** $300,000

**LENDER:**
[*please **PRINT** all information except signature*]

Address

Telecopier No.

Jurisdiction of Incorporation
or Organization

*Name*:

Contact person:

*If the above Notice Address is not the Residence (for individual Lender) or Principal Place of Business (for Lender which is not an individual)*, such Residence or Principal Place of Business is:

**COMPANY:**

**ROSETTA GENOMICS LTD.**

By: /s/ Kenneth A. Berlin

Title: President & CEO

*Name*:
Contact person: Kenneth A. Berlin

**EXHIBIT 2.15.2**

## SECURITY INTEREST AGREEMENT

Reference is made to (i) that certain Secured Loan Agreement, dated as of January 26, 2012 (the "Loan Agreement"), by and among the Lenders named therein (each, a "Secured Party" and collectively, the "Secured Parties"), and ROSETTA GENOMICS LTD., incorporated under the laws of the State of Israel, with headquarters (and registered office in accordance with Israeli Companies Law, 1999) located at 10 Plaut Street, Science Park, Rehovot 76706, Israel (the "Company", or the "Debtor"), and (ii) the Transaction Agreements, including, without limitation, the Debentures. Capitalized terms not otherwise defined herein shall have the meanings ascribed to them in the relevant Transaction Agreements.

The following terms represent the **SECURITY INTEREST AGREEMENT** ("Security Interest Agreement"), of even date to the Loan Agreement between each Secured Party and the Debtor.

## RECITALS

A. Pursuant to the Debentures, the Debtor has certain obligations to the Secured Parties (all such obligations, the "Obligations").

B. In order to induce each of the Secured Parties to execute and deliver the Transaction Agreements and to make the advances to the Debtor contemplated thereby, and as contemplated by the Loan Agreement and the Debentures, the Debtor has agreed to grant to the Secured Parties a security interest in the Collateral (as defined below) to secure the due and punctual fulfillment of the Obligations as set forth herein and in the Israel Security Agreement. The Secured Parties are willing to enter into the Loan Agreement and the other Transaction Agreements only upon receiving the Debtor's execution of this Security Interest Agreement and Israel Security Agreement.

NOW, THEREFORE, in consideration of the premises, the mutual covenants and conditions contained herein, and for other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto hereby agree as follows:

Section 1. Grant of Security Interest.

(a) In order to secure the due and punctual fulfillment of the Obligations, the Debtor hereby grants, conveys, transfers and assigns to the Secured Parties (and, if there be more than one Secured Party, to each of them based on their respective Allocable Shares, as defined below) a continuing security interest in the Collateral, wherever located, whether now owned or hereafter acquired or arising, and all cash and non-cash proceeds and products thereof.

(b) For purposes of this Agreement, the following terms shall have the meanings indicated:

"COLLATERAL" is all right, title and interest of Debtor in and to all of the following, whether now owned or hereafter arising or acquired and wherever located: All assets of the Debtor, including, but not limited to: all personal and fixture property of every kind and nature, including without limitation all goods (including inventory, equipment and any accessions thereto), instruments (including promissory notes), documents, accounts (including accounts receivable), chattel paper (whether tangible or electronic), deposit accounts, letter-of-credit rights (whether or not the letter of credit is evidenced by a writing), commercial tort claims, Securities and all other investment property, supporting obligations, any other contract rights or rights to the payment of money, insurance claims and proceeds, and all general intangibles (including all payment intangibles); all Equipment; all Intellectual Property; and any and all claims, rights and interests in any of the above, and all guaranties and security for any of the above, and all substitutions and replacements for, additions, accessions, attachments, accessories, and improvements to, and proceeds (including proceeds of any insurance policies, proceeds of proceeds and claims against third parties) of, any and all of the above, and all Debtor's books relating to any and all of the above and includes, without limiting the generality of the above, the Securities and Equipment (and related Intellectual Property) and Other Material Assets, if any, listed in Exhibits B-1 and B-2 and the Intellectual Property listed in the relevant Exhibits; provided, however, that such listings shall not limit the Secured Party's interest in any item of Collateral whether or not specified therein; provided, however, that "Collateral" shall not include (i) rights under or with respect to any General Intangible, license, permit or authorization to the extent any such General Intangible, license, permit or authorization, by its terms or by law, prohibits the assignment of, or the granting of a lien over the rights of a grantor thereunder or which would be invalid or unenforceable upon any such assignment or grant (the "Restricted Assets"), provided that (A) the proceeds of any Restricted Asset shall continue to be deemed to be "Collateral", and (B) this provision shall not limit the grant of any lien on or assignment of any Restricted Asset to the extent that the UCC or any other applicable law provides that such grant of lien or assignment is effective irrespective of any prohibitions to such grant provided in any Restricted Asset (or the underlying documents related thereto), (ii) any property that now or hereafter is subject to a lien permitted by Section 12(c) hereof (each a "Purchase Money Lien") to the extent that the lien granted pursuant to this Agreement is specifically prohibited by the documentation governing such Purchase Money Lien, (iii) any U.S. Trademark or service mark application where the grant of the lien hereby would cause the invalidation of such application, (iv) existing license agreements with certain specified institutions, specified in Exhibit B-1 and B-2 (the "Excluded Licenses") and (v) Existing Liens (as such term is defined in Exhibits A-1 and A-2) provided that (A) once any of the Existing Liens is removed, the assets and rights which were covered by such Existing Lien shall be included in the Collateral, and (B) all residual profits deriving from the assets and from the rights covered by such Existing Lien together with any and all residual considerations, assets and rights received through the realization of such Existing Lien, remaining after the repayment of the debts secured by such Existing Lien shall be be included in the Collateral.

"CODE" is the Uniform Commercial Code, in effect in the State of New York as in effect from time to time.

"COPYRIGHTS" are all copyrights, copyright rights, applications or registrations and like protections in each work or authorship or derivative work, whether published or not (whether or not it is a trade secret) now or later existing, created, acquired or held.

"EQUIPMENT" has the meaning set forth in the Code and includes all present and future machinery, equipment, tenant improvements, furniture, fixtures, vehicles, tools, parts and attachments in which Debtor has any interest.

"INTELLECTUAL PROPERTY" is all present and future (a) Copyrights, (b) trade secret rights, including all rights to unpatented inventions and know-how, and confidential information; (c) mask work or similar rights available for the protection of semiconductor chips or other proprietary information; (d) Patents; (e) Trademarks; (f) computer software and computer software products; (g) designs and design rights; (h) technology; (i) all claims for damages by way of past, present and future infringement of any of the rights included above; and (j) all licenses, sublicenses or other rights to use any property or rights of a type described above; a schedule of Intellectual Property is provided in Exhibit C and a schedule of Intellectual Property applications is provided in Exhibits D-1 and D-2 , but such listing shall not limit the Secured Party's interest in any Intellectual Property or Intellectual Property applications whether or not specified therein;

"ISRAEL SECURITY AGREEMENT" means the Israeli security agreement attached to the Secured Loan Agreement as Annex VII that will be filed with the Israeli Registrar of Companies.

"OTHER MATERIAL ASSETS" are (a) contract rights (other than those included in Intellectual Property), and (b) all other specific assets listed or described in Exhibits B-1 and B-2 which either or both (i) are material to the business of Debtor and/ or (ii) individually have a value estimated by the Debtor to be in excess of $2,500 as of a date within thirty (30) days prior to the Closing Date.

"PATENTS" are patents, patent applications and like protections, including improvements, divisions, continuations, renewals, reissues, extensions and continuations-in-part of the same wherever filed.

"SECURITIES" has the meaning ascribed to it in the Securities Act of 1933, as amended, and includes, but is not necessarily limited to, common stock, preferred stock, warrants, rights and other options, promissory notes or other instruments reflecting obligations of other entities; in furtherance of the foregoing, but not in limitation thereof, the term "Securities" specifically includes the securities listed in Exhibits B-1 and B-2.

"TRADEMARKS" are trademarks, servicemarks, trade styles, and trade names, whether or not any of the foregoing are registered, and all applications to register and registrations of the same and like protections, and the entire goodwill of the business of Debtor connected with and symbolized by any such trademarks.

All of foregoing definitions apply without regard to the jurisdiction in which the item of Collateral is now or hereafter located and without regard to the jurisdiction which granted, issued or registered a particular right such as, but not necessarily limited to, a right with respect to any Intellectual Property. Notwithstanding the above or any other provision of this Security Agreement to the contrary, the security interest to be created under the Israeli Securty Agreement and registered by the Debtor in Israel with the Israeli Registrar of Companies in accordance with the Israeli Companies Ordinance [New Version] will be the pledge over the pledged properties as detailed in the Israeli Security Agreement (regardless the definition of the term "Collateral" above except for the proviso excluding certain assets and rights from the Collateral which shall apply with respect to the pledge created by the Israeli Security Agreement).

(c) As used in this Agreement, the term "Company" or "Debtor" refers to (i) the Company itself or (ii) any other relevant Company Group Member, including without limitation, ROSETTA GEONOMICS, INC., a wholly owned subsidiary of the Company incorporated under the laws of the State of Delaware or (iii) any two or more of the parties identified in the preceding clauses (i) and (ii), as the context may allow.

(d) The security interests granted pursuant to this Section (the "Security Interests") are granted as security only and shall not subject any of the Secured Parties to, or transfer or in any way affect or modify, any obligation or liability of the Debtor under any of the Collateral or any transaction which gave rise thereto.

(e) The term "Allocable Share" means, with respect to each Secured Party (if there is more than one Secured Party), as of the relevant date, the fraction equal to (i) the then outstanding principal balance of the Debentures held by such Secured Party, divided by (ii) the aggregate of the then outstanding principal balance of the Debentures held all Secured Parties.

Section 2. Filing; Further Assurances. The Debtor will, at its expense, cause to be searched the public records with respect to the Collateral and will execute, deliver, file and record at its expense (in such manner and form as each of the Secured Parties may require), or permit each of the Secured Parties to file and record at its expense, as its attorney in fact, any financing statement, any carbon, photographic or other reproduction of a financing statement or this Security Interest Agreement (which shall be sufficient as a financing statement hereunder), any specific assignments or other paper (and/or any agreements, forms, instruments and notices) that may be reasonably necessary or desirable, or that each of the Secured Parties may request, in order to create, preserve, perfect or validate any Security Interest or to enable each of the Secured Parties to exercise and enforce its rights hereunder with respect to any of the Collateral in any jurisdiction. The Debtor hereby appoints each Secured Party as Debtor's attorney-in-fact to execute in the name and behalf of Debtor such additional financing statements as such Secured Party may reasonably request, in any jurisdiction including the State of Israel and the Israel Patent Office.

Section 3. Representations and Warranties of Debtor. The Debtor hereby represents and warrants to the Secured Party (a) that, except for the Permitted Liens (as defined below), the Debtor is, or to the extent that certain of the Collateral is to be acquired after the date hereof, will be, the owner of the Collateral, and the Collateral existing on the date hereof is and will continue to be, and, as to Collateral arising after the date hereof, will be free from any adverse lien, security interest or encumbrance; (b) that, except for such financing statements as may be described on Exhibits A-1 and A-2 attached hereto and made a part hereof, ,no financing statement covering the Collateral is on file in any public office, other than the financing statements filed pursuant to this Security Agreement; (c) that all additional information, representations and warranties, if any, contained in Exhibits B-1 and B-2 attached hereto and made a part hereof are, with respect to the subject matter thereof, true, accurate and complete in all material respects on the date hereof,[1] and (d) that the statements made in the Recitals of this Security Interest Agreement, which are deemed incorporated herein by reference, are true, accurate and complete in all material respects, (e) to the extent that a valid security interest can be granted in the Collateral pursuant to applicable law or agreement, and subject to existingliens, as stated in Exhibit A-1 and A- 2 and subject to the making of timely filing or other acts to any authorized authority, the security interests granted hereunder to each Secured Party are and will continue to be (or will be, in the case of Collateral hereafter arising) , except for Permitted Liens as stated in Exhibit A-1 and A- 2 a valid first lien on and security interest in the Collateral, superior and prior to the rights of all third parties and (f) Debtor is not presently insolvent and the transfer and pledge of the Collateral to the Secured Party does not result in the insolvency of the Debtor.

[1] The Debtor and Secured Party further acknowledge that the Collateral covered by this Agreement is not necessarily limited to collateral specifically identified in Exhibits B or C or in any other provision or exhibit of this Agreement.

Section 4. Covenants of Debtor. The Debtor hereby covenants and agrees with each Secured Party that (a) the Debtor will, at the Debtor's sole cost and expense, defend the Collateral against all claims and demands of all persons at any time claiming any interest therein junior to the Secured Party's interest; (b) the Debtor will provide the Secured Party with prompt written notice of (i) any change in the chief executive officer of the Debtor or the office where the Debtor maintains its books and records pertaining to the Collateral; (ii) the movement or relocation of all or a material part of the Collateral to or at any address other than the address of Debtor set forth at the head of this Security Interest Agreement or as set forth in said Exhibits B-1 and B-2; and (iii) any facts which constitute a Debtor Event of Default (as such term is defined below), or which, with the giving of notice and/or the passage of time, could or would constitute a Debtor Event of Default, pursuant to the Section titled “Debtor Events of Default” below; (c) the Debtor will promptly pay any and all taxes, assessments and governmental charges upon the Collateral prior to the date penalties are attached thereto, except to the extent that such taxes, assessments and charges shall be contested in good faith by the Debtor; (d) the Debtor will promptly notify the Secured Party of any event causing a substantial loss or diminution in the value of all or any material part of the Collateral and the amount or an estimate of the amount of such loss or diminution; (e) the Debtor will have and maintain adequate insurance at all times with respect to the Collateral, for such other risks as are customary in the Debtor’s industry for the respective items included in the Collateral, such insurance to be payable to the Secured Party and the Debtor as their respective interests may appear, and shall provide for a minimum of ten (10) days prior written notice of cancellation to the Secured Party, and Debtor shall furnish the Secured Party with certificates or other evidence satisfactory to the Secured Party of compliance with the foregoing insurance provisions; (f) except for the equipment listed in Schedule B-1 that is marked as “Equipment for Sale”, the Debtor will not sell or offer to sell or otherwise assign, transfer or dispose of the Collateral or any interest therein, without the prior written consent of the Secured Party, except (i) in the ordinary course of business, (ii) the sale, disposal or transfer of worn-out or obsolete equipment, and (iii) in connection with Permitted Liens; (g) the Debtor will keep the Collateral free from any adverse lien, security interest or encumbrance (except for Permitted Liens) and in good order and repair, reasonable wear and tear excepted, and will not waste or destroy the Collateral or any part thereof; (h) the Debtor will not use the Collateral in material violation of any law, statute or ordinance of any applicable jurisdiction, the violation of which could materially and adversely affect the Debtor's business: and (i) the Debtor will keep the Excluded Licenses free from any adverse lien, security interest or encumbrance.

Section 5. Records Relating To Collateral. The Debtor will keep its records concerning the Collateral at its offices designated above or at such other place or places of business of which the Secured Party shall have been notified in writing no less than ten (10) days prior thereto. The Debtor will hold and preserve such records and chattel paper and will permit representatives of the Secured Party at any time during normal business hours upon reasonable notice to examine and inspect the Collateral and to make abstracts from such records and chattel paper, and will furnish to the Secured Party such information and reports regarding the Collateral as the Secured Party may from time to time reasonably request.

Section 6. General Authority. From and during the term of any Debtor Event of Default, the Debtor hereby appoints the Secured Party the Debtor's lawful attorney, with full power of substitution, in the name of the Debtor, for the sole use and benefit of the Secured Party, but at the Debtor's expense, to exercise, all or any of the following powers with respect to all or any of the Collateral:

(a) to demand, sue for, collect, receive and give acquittance for any and all monies due or to become due;

(b) to receive, take, endorse, assign and deliver all checks, notes, drafts, documents and other negotiable and non-negotiable instruments and chattel paper taken or received by the Secured Party;

(c) to settle, compromise, prosecute or defend any action or proceeding with respect thereto;

(d) to sell, transfer, assign or otherwise deal in or with the same or the proceeds thereof or the related goods securing the Collateral, as fully and effectually as if the Secured Party were the sole and absolute owner thereof;

(e) to extend the time of payment of any or all thereof and to make any allowance and other adjustments with reference thereto; and

(f) to discharge any taxes, liens, security interests or other encumbrances at any time placed thereon;

provided, that the Secured Party shall give the Debtor not less than ten (10) business days' prior written notice of the time and place of any sale or other intended disposition of any of the Collateral.

The exercise by a Secured Party of, or the failure of a Secured Party to so exercise, any authority granted herein shall in no manner affect Debtor's liability to such or any other Secured Party, and provided, further, that no Secured Party shall be under any obligation or duty to exercise any of the powers hereby conferred upon it and it shall be without liability for any act or failure to act in connection with the collection of, or the preservation of, any rights under any of the Collateral, and Secured Party shall not be required to proceed against any other person or entity who or which has guaranteed the performance of the Obligations or provided any security therefor before proceeding against Debtor or the Collateral.

Section 7. Debtor Events of Default.

(a) The Debtor shall be in default under this Security Agreement upon the occurrence of any of the following events (each, a "Debtor Event of Default"):

(i) an Event of Default (as defined in the Debenture or other Transaction Agreement or the Israel Security Agreement, ) and all applicable cure periods have expired without such breach having been timely cured; or

(ii) if any representation or warranty made by the Debtor in this Security Interest Agreement, in the Loan Agreement or in any of the other Transaction Agreements shall be false or misleading in any material respect when madeor

(iii) Debtor shall breach any covenant of Debtor in this Security Interest Agreement or in any other document or instrument executed by Debtor in favor of or for the benefit of the Secured Party as contemplated by any of the Transaction Agreements and all applicable cure periods have expired without such breach having been timely cured.

Section 8. Remedies Upon Debtor Event of Default. If any Debtor Event of Default shall have occurred, then in addition to the provisions of Section 7 hereof, a Secured Party may exercise all the rights and remedies of a secured party under the Code. The Secured Party may require the Debtor to assemble all or any part of the Collateral and make it available to the Secured Party at a place to be designated by the Secured Party which is reasonably convenient. The Secured Party shall give the Debtor ten (10) business days prior written notice of the Secured Party's intention to make any public or private sale or sale at a broker's board or on a securities exchange of the Collateral. At any such sale the Collateral may be sold in one lot as an entirety or in separate parcels, as the Secured Party, in its sole discretion, may determine. The Secured Party shall not be obligated to make any such sale pursuant to any such notice. The Secured Party may, without notice or publication, adjourn any public or private sale or cause the same to be adjourned from time to time by announcement at the time and place fixed for the sale, and such sale may be made at any time or place to which the same may be adjourned. The Secured Party, instead of exercising the power of sale herein conferred upon it, may proceed by a suit or suits at law or in equity to foreclose the Security Interests and sell the Collateral, or any portion thereof, under a judgment or decree of a court or courts of competent jurisdiction. Notwithstanding the above or any other provision to the contrary hereunder (including the provisions of Section 17 hereunder), the realization of and the exetcise of rights in connection to the security interest created under the Israeli Security Agreement shall be subject to the provisions of Israeli law.

Section 9. Application of Collateral and Proceeds. The proceeds of any sale of, or other realization upon, all or any part of the Collateral shall be applied in the following order of priorities: (a) first, to pay the reasonable expenses of such sale or other realization, including, without limitation, reasonable attorneys' fees, and all expenses, liabilities and advances reasonably incurred or made by the Secured Party in connection therewith, and any other unreimbursed expenses for which the Secured Party is to be reimbursed pursuant to the Section titled “Expenses; Secured Party's Lien” below; (b) second, to the payment of the Obligations in such order of priority as the Secured Party, in its sole discretion, shall determine; and (c) finally, to pay to the Debtor, or its successors or assigns, or as a court of competent jurisdiction may direct, any surplus then remaining from such proceeds.

Section 10. Expenses; Secured Party's Lien. If any Debtor Event of Default shall have occurred, the Debtor will forthwith upon demand pay to the Secured Party: (a) the amount which the Secured Party may have been required to pay to free any of the Collateral from any lien thereon; and (b) the amount of any and all reasonable out-of-pocket expenses, including, without limitation, the reasonable fees and disbursements of its counsel, and of any agents not regularly in its employ, which the Secured Party may incur in connection with (i) the collection, sale or other disposition of any of the Collateral; (ii) the exercise by the Secured Party of any of the powers conferred upon it hereunder, or (iii) any Event of Default by the Debtor hereunder.

Section 11. Termination of Security Interests; Release of Collateral. Upon the payment or other satisfaction in full of the Obligations owed by Debtor to all Secured Parties, the Security Interests shall terminate and all rights to the Collateral shall revert to the Debtor. Upon any such termination of the Security Interests or release of Collateral, the Secured Party will, at the Debtor's expense, to the extent permitted by law, execute, deliver to the Debtor and file with the appropriate authority such documents as the Debtor shall reasonably request to evidence the termination of the Security Interests or the release of such Collateral, as the case may be (including, without limitation, the filing of termination statements in the appropriate jurisdictions).

Section 12. Permitted Liens. The Debtor further covenants and agrees that it will not grant any other lien in the Collateral (howsoever denominated) as long as any of the Obligations remain outstanding other than Permitted Liens (as defined below). The term "Permitted Liens" means any one or more of the following:

(a) liens shown on Exhibits A- 1 attached hereto, each of which represents a security interest granted and perfected prior to the Closing Date to which the Secured Parties have consented to subordinate;

(b) liens for taxes, fees, assessments or other governmental charges or levies, either not delinquent or being actively contested in good faith by the Debtor;

(c) purchase money liens (i) on equipment acquired or held by the Debtor, where such lien was created in connection with the financing of the acquisition of such equipment, or (ii) existing on equipment when such equipment is or was acquired by the Debtor; provided, in each case that the lien is limited to the specific item or items of equipment and improvements and proceeds thereof;

(d) liens associated with licenses or sublicenses granted by the Debtor in the ordinary course of its business, and not otherwise prohibited by the terms of this Agreement, if such liens have no priority over the Security Interests;

(e) liens associated with licenses or sublicenses granted to the Debtor in the ordinary course of its business, in connection with the Debtor's leased premises or leased property, if such liens have no priority over the Security Interests;

(f) liens of carriers, warehousemen, suppliers, or other persons that are possessory in nature arising in the ordinary course of business so long as such liens attach only to Inventory, securing liabilities which are not delinquent or remain payable without penalty or which are being contested in good faith and by appropriate proceedings which proceedings have the effect of preventing the forfeiture or sale of the property subject thereto;

(g) liens to secure payment of workers' compensation, employment insurance, old-age pensions, social security and other like obligations incurred in the ordinary course of business (other than liens imposed by ERISA); and

(h) liens incurred in the extension, renewal or refinancing of the indebtedness secured by Liens described in (a) and (c) but any extension, renewal or replacement Lien must be limited to the property encumbered by the existing lien, and the principal amount of the indebtedness shall not increase.

(i) Liens arising from attachments or judgments, orders, or decrees in circumstances not constituting an Event of Default; and

(j) Liens in favor of financial institutions arising in connection with Debtor's deposit and/or securities accounts held at such institutions.

Section 13. General. The provisions of Sections 9 through 12, inclusive, of the Loan Agreement are deemed incorporated herein by reference.

Section 14. Miscellaneous.

(a) No failure on the part of the Secured Party to exercise, and no delay in exercising, and no course of dealing with respect to, any right, power or remedy under this Security Interest Agreement shall operate as a waiver thereof; nor shall any single or partial exercise by the Secured Party of any right, power or remedy under this Security Interest Agreement preclude the exercise, in whole or in part, of any other right, power or remedy. The remedies in this Security Interest Agreement are cumulative and are not exclusive of any other remedies provided by law. Neither this Security Interest Agreement nor any provision hereof may be changed, waived, discharged or terminated orally but only by a statement in writing signed by the party against which enforcement of the change, waiver, discharge or termination is sought.

(b) Unless otherwise defined herein, or unless the context otherwise requires, all terms used herein which are defined in the New York Uniform Commercial Code have the meanings therein stated.

(c) The execution and delivery by Debtor of this Security Interest Agreement and all documents delivered in connection herewith have been duly and validly authorized by all necessary corporate action of Debtor and this Agreement and all documents delivered in connection herewith have been duly and validly executed and delivered by Debtor. The execution and delivery by Debtor of this Security Interest Agreement and all documents delivered in connection herewith will not result in a breach or default of or under the Certificate of Incorporation, By-laws or any agreement, contract or indenture of Debtor. This Security Interest Agreement and all documents delivered in connection therewith are legal, valid and binding obligations of Debtor enforceable against Debtor in accordance with their terms.

(d) The Debtor and the Secured Party acknowledge and agree that irreparable damage would occur in the event that any of the provisions of this Security Interest Agreement were not performed in accordance with their specific terms or were otherwise breached. It is accordingly agreed that the parties shall be entitled to an injunction or injunctions to prevent or cure breaches of the provisions of this Security Interest Agreement and to enforce specifically the terms and provisions hereof, this being in addition to any other remedy to which any of them may be entitled by law or equity.

(e) In the event that any action is taken by Debtor or Secured Party in connection with this Security Interest Agreement, or any related document or matter, the losing party in such legal action, in addition to such other damages as he or it may be required to pay, shall pay reasonable attorneys' fees to the prevailing party.

Section 15. Execution. As contemplated by the Loan Agreement, this Security Interest Agreement is deemed executed by the Parties hereto by their respective executions of the Loan Agreement. Nevertheless, the Debtor is confirming its execution of this Security Interest Agreement by its signature in the space provided below.

Section 16. Assignment. Only in connection with the transfer of the rights under the Transaction Agreements in accordance with their terms, a Secured Party may assign or transfer the whole or any part of its security interest granted hereunder. Any transferee of the Collateral shall be vested with all of the rights and powers of the assigning Secured Party hereunder with respect to the Collateral.

Section 17. Governing Law. This Security Agreement shall be governed by and construed in accordance with the laws of the State of New York for contracts to be wholly performed in such state and without giving effect to the principles thereof regarding the conflict of laws. Each of the parties consents to the exclusive jurisdiction of the federal courts whose districts encompass any part of the County of New York or the state courts of the State of New York sitting in the County of New York in connection with any dispute arising under this Security Agreement and hereby waives, to the maximum extent permitted by law, any objection, including any objection based on *forum non coveniens*, to the bringing of any such proceeding in such jurisdictions. To the extent determined by such court, the Company shall reimburse the Holder for any reasonable legal fees and disbursements incurred by the Holder in enforcement of or protection of any of its rights under any of this Security Agreement.

Section 18. Jury Waiver Trial. The Company and the Holder hereby waive a trial by jury in any action, proceeding or counterclaim brought by either of the Parties hereto against the other in respect of any matter arising out of or in connection with this Debenture.

Section 19. Waiver. The Debtor waives any right that it may have to require Secured Party to proceed against any other person, or proceed against or exhaust any other security, or pursue any other remedy Secured Party may have.

Section 20 . License .To the extent otherwise prohibited under this Agreement, the Company shall seek consent from the Secured Parties prior to entering into any commercial partnership, distribution, sales agency or other similar arrangement relating to Company's Existing Products (i.e., miRview$^{tm}$mets, miRview$^{tm}$mets2, miRview$^{tm}$squamous, miRview$^{tm}$lung and miRview$^{tm}$meso), which consent shall not be unreasonably withheld or delayed.

*[End of text of Security Interest Agreement. ]*

Confirmed
ROSETTA GENOMICS LTD.

By: /s/ Kenneth A. Berlin
Name and Title: President & CEO

ROSETTA GENOMICS INC.

By: /s/ Kenneth A. Berlin
Name and Title: President

**Exhibit 4.10**

**AMENDED AND RESTATED LICENSE AGREEMENT**

**BETWEEN**

**THE JOHNS HOPKINS UNIVERSITY**

**&**

**ROSETTA GENOMICS LTD**

**JHU Ref: A20281**

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**LICENSE AGREEMENT**

THIS LICENSE AGREEMENT (the "Agreement") is entered into by and between THE JOHNS HOPKINS UNIVERSITY, a Maryland corporation having an address at 3400 N. Charles Street, Baltimore, Maryland, 21218-2695 ("JHU") and Rosetta Genomics Ltd., an Israeli corporation having an address at 10 Plaut St. Rehovot ("Company"), with respect to the following:

**RECITALS**

WHEREAS, as a center for research and education, JHU is interested in licensing PATENT RIGHTS (hereinafter defined) in a manner that will benefit the public by facilitating the distribution of useful products and the utilization of new processes, but is without capacity to commercially develop, manufacture, and distribute any such products or processes; and

WHEREAS, a valuable invention(s) entitled "Discovery of Human miRNAs and Their Evaluation with a Dicer KO" (JHU Ref. 4950) was developed during the course of research conducted at JHU by Drs. Jordan Cummins, Victor Velculescu, Kenneth Kinzler and Bert Vogelstein (all hereinafter, "Inventors"). Dr. Vogelstein is an employee of Howard Hughes Medical Institute (hereinafter "HHMI"); and

WHEREAS, JHU has acquired through assignment all rights, title and interest, with the exception of certain retained rights by the United States Government and HHMI, in its interest in said valuable inventions; and

WHEREAS, Company desires to obtain certain rights in such inventions as herein provided to research, commercially develop, manufacture, produce, commercialize, use, import, sell and distribute products and processes based upon or embodying said valuable inventions throughout the world;

WHEREAS, JHU and Company previously entered into an Exclusive License Agreement dated August 2, 2006 (the "Prior Agreement") pursuant to which JHU granted to Company an exclusive license to PATENT RIGHTS;

WHEREAS, the Parties desire to amend and restate the Prior Agreement;

NOW THEREFORE, in consideration of the premises and the mutual promises and covenants contained in this Agreement, and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties hereto agree as follows:

**ARTICLE 1**
**DEFINITIONS**

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

All references to particular Exhibits, Articles or Paragraphs shall mean the Exhibits to, and Paragraphs and Articles of, this Agreement, unless otherwise specified. For the purposes of this Agreement and the Exhibits hereto, the following words and phrases shall have the following meanings:

**1.1 "AFFILIATED COMPANY"** as used herein in either singular or plural shall mean any corporation, company, partnership, joint venture or other entity, which controls, is controlled by or is under common control with Company. For purposes of this Paragraph 1.1, control shall mean the ability to direct the activities of the relevant entity, and shall include without limitation direct or indirect (i) ownership of at least fifty percent (50%) of the outstanding voting stock or other ownership interest of the other organization or entity, or (ii) possession of the power to elect or appoint at least fifty percent (50%) of the members of the governing body of the organization or other entity.

**1.2 "EFFECTIVE DATE"** of this License Agreement shall mean August 2, 2006.

**1.3 "LICENSED PRODUCT(S)"** as used herein in either singular or plural shall mean any process or method, material, compositions, drug, or other product or service, the manufacture, use, provision or sale of which would constitute, but for the license granted to Company pursuant to this Agreement, an infringement of a VALID CLAIM of PATENT RIGHTS relating to a nucleic acid sequence (infringement shall include, but is not limited to, direct, contributory, or inducement to infringe).

**1.4 "NET SALES"** shall mean gross sales revenues and fees billed by Company and AFFILIATED COMPANY from the sale of LICENSED PRODUCT(S) less (i) customary trade, quantity, or cash discounts to the extent actually allowed and taken; (ii) amounts repaid or credited by reason of price adjustment, recall rejection or return; and (iii) to the extent separately stated on purchase orders, invoices, or other documents of sale, any taxes or other governmental charges levied on the production, sale, transportation, delivery, or use of a LICENSED PRODUCTS, (iv) rebates and chargebacks, including without limitation rebates to governmental or managed care organizations; and (v) amounts received in respect of packing, freight, shipping and insurance charges applicable to the LICENSED PRODUCTS sold.

If a LICENSED PRODUCT is sold or provided as part of a combination, then:

(i) In the event that Company or an AFFILIATED COMPANY sells or provides for any non-therapeutic purpose a LICENSED PRODUCT, which LICENSED PRODUCT (i) is a nucleic acid sequence that is a LICENSED PRODUCT or (ii) is designed to detect or modulate a nucleic acid sequence that is a LICENSED PRODUCT, in combination with another nucleic acid sequence which is not a LICENSED PRODUCT or is designed to detect or modulate another nucleic acid sequence which is not a LICENSED PRODUCT ("Other Sequence"), the NET SALES for purposes of royalty payments shall be calculated by [***]. However, in no event shall any such credit be applied to reduce the amount payable hereunder in respect of any such LICENSED PRODUCT to less than [***] percent ([***]%) of that amount which would otherwise have been paid or payable to JHU in respect thereof in accordance with the terms of the Agreement and prior to any credit for Other Sequences available under this paragraph;

(ii) In the event that Company or an AFFILIATED COMPANY sells, in a particular country during a particular year, a LICENSED PRODUCT for therapeutic purposes in combination with a therapeutic product which is not a LICENSED PRODUCT and when combined with a LICENSED PRODUCT specifically enhances the activity and/or efficacy of the LICENSED PRODUCT and/or acts synergistically with the LICENSED PRODUCT ("Other Items"), the NET SALES for purposes of royalty payments shall be calculated as follows:

(a) If all LICENSED PRODUCTS and Other Items contained in the combination are available separately in the particular country during such year, the NET SALES for purposes of royalty payments will be calculated by [***] is the [***] in the [***] in the [***] is the [***] in the [***] in the [***].

(b) If the combination includes Other Items which are not sold separately in the particular country during such year (but all LICENSED PRODUCTS contained in the combination are available separately in the particular country during such year), the NET SALES for purposes of royalty payments will be calculated by [***].

(c) If the LICENSED PRODUCTS contained in the combination are not sold separately, the parties agree to negotiate a reduction in the royalty rate to reflect the fair value that the LICENSED PRODUCT attributed to the overall product sold, but in no event shall the royalty rates be reduced by greater than [***] percent ([***]%).

The term "Other Items" does not include solvents, diluents, carriers, excipients, buffers or the like used in formulating a product; however,

(iii) In no event shall Company apply the credit in both paragraphs (i) and (ii) above to the same sale of a LICENSED PRODUCT.

**1.5 "PATENT RIGHTS"** shall mean (i) PCT/US2007/004518, filed on February 16, 2007, and assigned to JHU entitled "Discovery of Human miRNAs and Their Evaluation with a Dicer KO" and the invention disclosed and claimed therein, (ii) all continuations, divisions, and reissues based thereon, (iii) claims of continuation-in-part applications directed to subject matter specifically described in (i), (iv) any corresponding foreign patent applications, and (v) any U.S. patents, or foreign patents issuing, granted or registered on any of (i) through (iv).

**1.6 "ROYALTY TERM"** shall mean, with respect to each LICENSED PRODUCT in each country, the period during which there is a VALID CLAIM.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**1.7 "SIGNATURE DATE"** shall mean the date the last party hereto has executed this Amended and Restated License Agreement.

**1.8 "SUBLICENSEE(S)"** as used herein in either singular or plural shall mean any person or entity other than an AFFILIATED COMPANY to which Company has granted a sublicense to some or all of the rights granted to COMPANY under this Agreement.

**1.9 "VALID CLAIM"** shall mean either: (a) a claim of an issued and unexpired patent included within the PATENT RIGHTS which has not been revoked or held unenforceable, unpatentable or invalid by a decision of a court or other governmental agency of competent jurisdiction, unappealable or unappealed within the time allowed for appeal, and which has not been disclaimed, denied or admitted to be invalid or unenforceable through reexamination, reissue, disclaimer or otherwise; or (b) a claim of a pending patent application included within the PATENT RIGHTS, which claim has not been abandoned or finally disallowed without the possibility of appeal or refiling of such application, and has been pending for less than six (6) years from the date such claim was filed in a first national filing non-provisional patent application in the country of interest and has not been (i) canceled, (ii) withdrawn from consideration, (iii) finally determined to be unallowable by the applicable governmental authority (and from which no appeal is or can be taken), or (iv) abandoned.

## ARTICLE 2
## LICENSE GRANT

**2.1 Grant.** Subject to the terms and conditions of this Agreement, JHU hereby grants to Company a nonexclusive license to make, have made, manufacture, provide, use, import, commercialize, distribute, offer for sale and sell the LICENSED PRODUCT(S) in the United States and worldwide under the PATENT RIGHTS. This Grant shall apply to the Company and any AFFILIATED COMPANY. If any AFFILIATED COMPANY exercises rights under this Agreement, such AFFILIATED COMPANY shall be bound by all terms and conditions of this Agreement, including but not limited to indemnity and insurance provisions and royalty payments, which shall apply to the exercise of the rights, to the same extent as would apply had this Agreement been directly between JHU and the AFFILIATED COMPANY, except that any AFFILIATED COMPANY shall not have the right to grant a sublicense to tothers as set forth in Paragraph 2.2 below. In addition, Company shall remain fully liable to JHU for all acts and obligations of AFFILIATED COMPANY such that acts of the AFFILIATED COMPANY shall be considered acts of the Company.

**2.2 Sublicense.** Company may sublicense to others under this Agreement subject to the terms and conditions of this Paragraph 2.2. As a condition to its validity and enforceability, each sublicense agreement shall: (a) also include a license to substantial intellectual property rights solely owned or co-owned by Company which are not PATENT RIGHTS, (b) incorporate by reference the terms and conditions of this Agreement, (c) be consistent with the terms, conditions and limitations of this Agreement, (d) name JHU and HHMI as intended third party beneficiaries of the obligations of SUBLICENSEE without imposition of obligation or liability on the part of JHU, HHMI or their Inventors to the SUBLICENSEE, and (e) specifically incorporate Paragraphs 6.2 "Representations by JHU", 7.1 "Indemnification", 10.1 "Use of Name", 10.4 "Product Liability" into the body of the sublicense agreement, and cause the terms used in therein to have the same meaning as in this Agreement. Company shall promptly provide to JHU each sublicense agreement, executed by both Company and SUBLICENSEE. To the extent that any terms, conditions or limitations of any sublicense agreement are inconsistent with this Agreement, those terms, conditions and limitations are null and void against JHU and HHMI.

**2.3 Government Rights.** The United States Government may have acquired a nonexclusive, nontransferable, irrevocable, paid-up license to practice or have practiced for or on behalf of the United States the inventions described in PATENT RIGHTS throughout the world. The rights granted herein are additionally subject to: (i) the requirement that any LICENSED PRODUCT(S) produced for use or sale within the United States shall be substantially manufactured in the United States (unless a waiver under 35 USC § 204 or equivalent is granted by the appropriate United States government agency), (ii) the right of the United States government to require JHU, or its licensees, including Company, to grant sublicenses to responsible applicants on reasonable terms when necessary to fulfill health or safety needs, and, (iii) other rights acquired by the United States government under the laws and regulations applicable to the grant/contract award under which the inventions were made.

## ARTICLE 3
## FEES, ROYALTIES, & PAYMENTS

**3.1 License and Amendment Fee.** Company shall pay to JHU within thirty (30) days of the EFFECTIVE DATE of this Agreement a license fee as set forth in Exhibit A. Company shall pay to JHU within thirty (30) days of the SIGNATURE DATE an amendment fee as set forth in Exhibit A. JHU will not submit an invoice for the license fee, which is nonrefundable and shall not be credited against royalties or other fees.

**3.2 Minimum Annual Royalties.** Company shall pay to JHU minimum annual royalties as set forth in Exhibit A. Such minimum annual royalties shall be due, without invoice from JHU, within [***] of each anniversary of the EFFECTIVE DATE beginning with the first anniversary until the expiration of the ROYALTY TERM. Running royalties accrued under Paragraph 3.3 and paid to JHU during the one year period preceding an anniversary of the EFFECTIVE DATE shall be credited against the minimum annual royalties due on that anniversary date.

**3.3 Running Royalties.** Company shall pay to JHU a running royalty as set forth in Exhibit A, for each LICENSED PRODUCT(S) sold or provided by Company and AFFILIATED COMPANIES, based on NET SALES during the ROYALTY TERM. Such payments shall be made quarterly.

The royalties, and other amounts payable by Company to JHU pursuant to this Agreement ("Payments") shall be reduced [***] applicable to such Payments, and are to be remitted [***], such that the actual maximum payment by the Company hereunder shall not exceed the amounts or the rates provided herein. JHU shall be responsible for paying [***]. If applicable laws require that [***], the Company shall (a) [***] amount, (b) [***], and (c) [***] therefor, and such other information as may be necessary [***].

In the event any LICENSED PRODUCT shall be sold by Company to an AFFILIATED COMPANY, by an AFFILIATED COMPANY to Company, or among AFFILIATED COMPANIES for subsequent resale to an unaffiliated third party, then the royalty due hereunder shall be based upon [***] unaffiliated third party purchaser of such LICENSED PRODUCT.

In the event that non-monetary consideration is received by Company or AFFILIATED COMPANIES from the sale of LICENSED PRODUCT in an arms-length transaction, [***] for such sale.

In the event that (i) Company or an AFFILIATED COMPANY is required to make payment of royalties to non-AFFILIATES in order to obtain a license or similar rights from such non-AFFILIATES, in the absence of which license or rights Company could not make, use or sell a LICENSED PRODUCT and which rights are (in the reasonable opinion of Company's counsel) necessary in order for Company to make, use or sell LICENSED PRODUCTS, and (ii) the total royalty burden on Company required to make, use or sell a LICENSED PRODUCT exceeds [***] percent ([***]%), then the royalty rate to be applied hereunder shall be calculated by the following:

Adjusted JHU Royalty = [***]% x ([***])

[***]. However, in no event shall any such adjustment reduce the royalty rate hereunder in respect of any such Licensed Product to less than [***] percent ([***]%).

**3.4 Royalty Floor.** In no event shall any credits or royalty adjustments be applied to reduce the amount payable to JHU in respect of any LICENSED PRODUCT to less than [***] percent ([***]%) of NET SALES, where the definition of NET SALES for the purposes of this Paragraph 3.4 is limited to the first paragraph of Paragraph 1.5.

**3.5 Sublicense Consideration.** Company shall pay to JHU a percentage of consideration received for sublicenses under this Agreement as set forth in Exhibit A. This sublicense consideration shall be due, without the need for invoice from JHU, within [***] of the effective date of each sublicense agreement (running royalties shall be paid quarterly). Such consideration shall mean consideration of any kind received by the Company or AFFILIATED COMPANIES from a SUBLICENSEE(S) for the grant of a sublicense under this Agreement, such as upfront fees, milestone fees, running royalties on LICENSED PRODUCTS and including any premium paid by the SUBLICENSEE(S) over Fair Market Value for stock of the Company or an AFFILIATED COMPANY in consideration for such sublicense. However, not included in such sublicense consideration are amounts paid to the Company or an AFFILIATED COMPANY by the SUBLICENSEE(S) for [***], each pursuant to a [***], or amounts paid by a SUBLICENSEE to [***]. The term "Fair Market Value" shall mean the average price that the stock in question is publicly trading at for twenty (20) trading days prior to the announcement of its purchase by the SUBLICENSEE(S) or if the stock is not publicly traded, the value of such stock as determined by the higher of (i) the most recent private financing through a financial investor (an entity whose sole interest in the Company or AFFILIATED COMPANY is financial) of the Company or AFFILIATED COMPANY that issued the shares, and at Company's option and expense (ii) the independent valuation by an accounting or other financial services firm mutually acceptable to JHU and Company.

**3.6 Patent Reimbursement.** In accordance with Paragraph 4.1 below, Company will reimburse JHU, within thirty (30) days of the receipt of an invoice from JHU, for all costs associated with the preparation, filing, maintenance, and prosecution of PATENT RIGHTS incurred by JHU subsequent to the EFFECTIVE DATE of this Agreement. Company's obligation to reimburse for such costs incurred subsequent to the SIGNATURE DATE shall be reduced pro rata based on the number of licensees of JHU under the PATENT RIGHTS.

**3.7 Form of Payment.** All payments under this Agreement shall be made in U.S. Dollars. Checks are to be made payable to "The Johns Hopkins University" and sent to:

Director
Johns Hopkins Technology Transfer
The Johns Hopkins University
100 N. Charles Street, 5th Floor
Baltimore, MD 21201

Attn: JHU Agrmt# A20281

or such other addresses which JHU may designate in writing from time to time. Wire transfers may be made through:

[***]

Company shall be responsible for any and all costs associated with wire transfers.

Via ACH

[***]

**3.8 Late Payments.** In the event that any payment due hereunder is not made when due, the payment shall accrue interest beginning on the [***] following the due date thereof, calculated at the annual rate of the sum of (a) [***] percent ([***]%) plus (b) the prime interest rate quoted by The Wall Street Journal on the date said payment is due, the interest being compounded on the last day of each calendar quarter, provided however, that in no event shall said annual interest rate exceed the maximum legal interest rate for corporations. Each such payment when made shall be accompanied by all interest so accrued. Said interest and the payment and acceptance thereof shall not negate or waive the right of JHU to seek any other remedy, legal or equitable, to which it may be entitled because of the delinquency of any payment including, but not limited to termination of this Agreement as set forth in Paragraph 9.2.

**3.9 Invoicing and Receipts.** Company may at their option and expense provide along with any payment to JHU a receipt for such payment along with a self-addressed, postage paid envelope. If such payment is correct and processed by JHU, JHU shall promptly sign and return such receipt to Company.

## ARTICLE 4
## PATENT PROSECUTION, MAINTENANCE, & INFRINGEMENT

**4.1 Prosecution & Maintenance.** JHU, at Company's expense (except as provided below), and following reasonable consultation with Company (as provided below), shall file, prosecute and maintain all patents and patent applications specified under PATENT RIGHTS and, subject to the terms and conditions of this Agreement, Company shall be licensed thereunder. Title to all such patents and patent applications shall reside in JHU. JHU shall have full and complete control over all patent matters in connection therewith under the PATENT RIGHTS, provided however, that JHU shall (a) cause its patent counsel to timely copy Company on all official actions and written correspondence with any patent office, and (b) allow Company an opportunity to comment and advise JHU. JHU shall consider and reasonably incorporate all comments and advice provided by Company. By concurrent written notification to JHU and its patent counsel at least thirty (30) days in advance (or later at JHU's discretion) of any filing or response deadline, or fee due date, Company may elect not to have a patent application filed in any particular country or not to pay expenses associated with prosecuting or maintaining any patent application or patent, provided that Company pays for all costs incurred up to the date of JHU's receipt of such notification. Failure to provide such notification can be considered by JHU to be Company's authorization to proceed with the relevant filing at Company's expense. Upon such notification, JHU may file, prosecute, and/or maintain such patent applications or patent at its own expense and for its own benefit, and any rights or license granted hereunder held by Company, AFFILIATED COMPANIES or SUBLICENSEES, relating to the PATENT RIGHTS which comprise the subject of such patent applications or patent and/or apply to the particular country, shall terminate.

**4.2 Notification.** Each party will notify the other promptly in writing when any infringement by a third party is uncovered or suspected.

## ARTICLE 5
## OBLIGATIONS OF THE PARTIES

**5.1 Reports.** Company shall provide to JHU the following written reports according to the following schedules, all of which shall be treated as Confidential Information of the Company.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

(a) Company shall provide quarterly Royalty Reports, substantially in the format of Exhibit B and due within [***] of the end of each calendar quarter following the first commercial sale of a LICENSED PRODUCT. Royalty Reports shall disclose the amount of LICENSED PRODUCT(S) sold, the total NET SALES of such LICENSED PRODUCT(S), and the running royalties due to JHU as a result of NET SALES by Company, AFFILIATED COMPANIES and SUBLICENSEES, thereof. Payment of any such royalties due shall accompany such Royalty Reports.

(b) Until Company, AFFILIATED COMPANY or a SUBLICENSEES(S) has achieved a first commercial sale of a LICENSED PRODUCT or LICENSED SERVICE, or received FDA market approval, Company shall provide semiannual Diligence Reports, due within [***] of the end of every June and December following the EFFECTIVE DATE of this Agreement. These Diligence Reports shall describe Company's, AFFILIATED COMPANIES and SUBLICENSEE(S)'s technical efforts towards meeting its obligations under the terms of this Agreement.

(c) Company shall provide Annual Reports within [***] of the end of every December following the EFFECTIVE DATE of this Agreement. Annual Reports shall include:

(i) evidence of insurance as required under Paragraph 10.4, or, a statement of why such insurance is not currently required, and

(ii) identification of all AFFILIATED COMPANIES which have exercised rights pursuant to Paragraph 2.1, or, a statement that no AFFILIATED COMPANY has exercised such rights, and

(iii) notice of all FDA approvals of any LICENSED PRODUCT(S) obtained by COMPANY, AFFILIATED COMPANY or SUBILCENSEE, the patent(s) or patent application(s) licensed under this Agreement upon which such product or service is based, and the commercial name of such product or service, or, in the alternative, a statement that no FDA approvals have been obtained.

**5.2 Records.** Company shall make and retain, for a period of three (3) years following the period of each report required by Paragraph 5.1, true and accurate records, files and books of account containing all the data reasonably required for the full computation and verification of sales and other information required in Paragraph 5.1. Such books and records shall be in accordance with generally accepted accounting principles consistently applied. Company shall permit the inspection and copying of such records, files and books of account by JHU or its agents during regular business hours upon ten (10) business days' written notice to Company. Such inspection shall not be made more than once each calendar year. All costs of such inspection and copying shall be borne by JHU, provided that if any such inspection shall reveal that an underpayment has been made to JHU in the amount equal to [***] percent ([***]%) or more of such payment in any calendar year, such costs shall be borne by Company. As a condition to entering into any such agreement, Company shall include in any agreement with its AFFILIATED COMPANIES or its SUBLICENSEE(S) which permits such party to make, use, sell, provide or import the LICENSED PRODUCT(S), a provision requiring such party to retain records of sales of LICENSED PRODUCT(S) and other information as required in Paragraph 5.1 and permit JHU to inspect such records as required by this Paragraph.

**5.3 Diligent Efforts.** Company shall exercise commercially reasonable diligent efforts to develop and to introduce the LICENSED PRODUCT(S) into the commercial market as soon as practicable, consistent with sound and reasonable business practice and judgment; thereafter, until the expiration or termination of this Agreement, Company shall endeavor to keep LICENSED PRODUCT(S) reasonably available to the public. Company shall also exercise reasonable efforts to develop LICENSED PRODUCT(S) suitable for different indications within the LICENSED FIELD, so that the PATENT RIGHTS can be commercialized as broadly and as speedily as sound and reasonable business practice and judgment would deem practicable.

**5.3(a) No Warranty.** Subject to Company's obligations set forth in Section 5.3, for the removal of doubt, nothing contained in this Agreement shall be construed as a warranty by the Company that any development to be carried out as aforesaid will actually achieve its aims or any other results, and the Company makes no warranties whatsoever as to any results to be achieved in consequence of the carrying out of any such development. FURTHERMORE, THE COMPANY DOES NOT ASSUME ANY DUTY OR OBLIGATION TO SUCCEED IN ANY TRIAL, REGISTRATION OR COMMERCIALIZATION OF THE LICENSED PRODUCT(S), NOR DOES THE COMPANY MAKE ANY REPRESENTATION TO THE EFFECT THAT THE COMMERCIALIZATION OF THE LICENSED PRODUCT(S) WILL SUCCEED, OR THAT IT WILL BE ABLE TO SELL THE LICENSED PRODUCT(S) IN ANY QUANTITY.

**5.4** THIS SECTION INTENTIONALLY LEFT BLANK

**5.5 Patent Acknowledgement.** Company agrees that all packaging containing individual LICENSED PRODUCT(S) sold by Company, AFFILIATED COMPANIES and SUBLICENSEE(S) of Company, will be marked with the number of the applicable patent(s) licensed hereunder in accordance with each country's patent laws.

## ARTICLE 6
## REPRESENTATIONS

**6.1 Duties of the Parties.** JHU is not a commercial organization. It is an institute of research and education. Therefore, JHU has no ability to evaluate the commercial potential of any PATENT RIGHTS or LICENSED PRODUCT or other license or rights granted in this Agreement. It is therefore incumbent upon Company to evaluate the rights and products in question, to examine the materials and information provided by JHU, and to determine for itself the validity of any PATENT RIGHTS, its freedom to operate, and the value of any LICENSED PRODUCTS or other rights granted.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**6.2 Representations by JHU.** JHU warrants that it has good and marketable title to its interest in the inventions claimed under PATENT RIGHTS with the exception of certain retained rights of the United States Government, which may apply if any part of the JHU research was funded in whole or in part by the United States Government, and HHMI. JHU warrants and represents that it has no knowledge of any legal suit, proceeding or claim of ownership by a third party contesting JHU's ownership or the validity of the PATENT RIGHTS. JHU does not warrant the validity of any patents or that practice under such patents shall be free of infringement. EXCEPT AS EXPRESSLY SET FORTH IN THIS PARAGRAPH 6.2, COMPANY, AFFILIATED COMPANIES AND SUBLICENSEE(S) AGREE THAT THE PATENT RIGHTS ARE PROVIDED "AS IS", AND THAT JHU MAKES NO REPRESENTATION OR WARRANTY WITH RESPECT TO THE PERFORMANCE OF LICENSED PRODUCT(S) INCLUDING THEIR SAFETY, EFFECTIVENESS, OR COMMERCIAL VIABILITY. JHU DISCLAIMS ALL WARRANTIES WITH REGARD TO PRODUCT(S) AND SERVICE(S) LICENSED UNDER THIS AGREEMENT, INCLUDING, BUT NOT LIMITED TO, ALL WARRANTIES, EXPRESSED OR IMPLIED, OF MERCHANTABILITY AND FITNESS FOR ANY PARTICULAR PURPOSE. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, JHU ADDITIONALLY DISCLAIMS ALL OBLIGATIONS AND LIABILITIES ON THE PART OF JHU AND INVENTORS, FOR DAMAGES, INCLUDING, BUT NOT LIMITED TO, DIRECT, INDIRECT, SPECIAL, AND CONSEQUENTIAL DAMAGES, ATTORNEYS' AND EXPERTS' FEES, AND COURT COSTS (EVEN IF JHU HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES, FEES OR COSTS), ARISING OUT OF OR IN CONNECTION WITH THE MANUFACTURE, USE, OR SALE OF THE PRODUCT(S) AND SERVICE(S) LICENSED UNDER THIS AGREEMENT. COMPANY, AFFILIATED COMPANIES AND SUBLICENSEE(S) ASSUME ALL RESPONSIBILITY AND LIABILITY FOR LOSS OR DAMAGE CAUSED BY A PRODUCT AND/OR SERVICE MANUFACTURED, USED, OR SOLD BY COMPANY, ITS SUBLICENSEE(S) AND AFFILIATED COMPANIES WHICH IS A LICENSED PRODUCT(S) OR AS DEFINED IN THIS AGREEMENT.

**6.3 Corporate Authority.** Notwithstanding the foregoing, JHU hereby represents that it has the full power and authority to enter into this Agreement and to convey the rights herein conveyed.

**6.4 Warranty by Company.** Company hereby warrants that it has not entered into any licenses or sublicenses related to the PATENT RIGHTS with a third party.

## ARTICLE 7
## INDEMNIFICATION

**7.1 Indemnification.** JHU, HHMI and the Inventors will have no legal liability exposure to third parties if JHU does not license the LICENSED PRODUCT(S), and any royalties JHU, HHMI and the Inventors may receive is not adequate compensation for such legal liability exposure. Therefore, JHU requires Company to protect JHU, HHMI and Inventors from such exposure to the same manner and extent to which insurance, if available, would protect JHU, HHMI and Inventors. Furthermore, JHU, HHMI and the Inventors will not, under the provisions of this Agreement or otherwise, have control over the manner in which Company or its AFFILIATED COMPANIES or its SUBLICENSEE(S) or those operating for its account or third parties who purchase LICENSED PRODUCT(S) from any of the foregoing entities, develop, manufacture, market or practice the inventions of LICENSED PRODUCT(S).

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

(a) Company, AFFILIATED COMPANY and SUBLICENSEE shall indemnify, defend with counsel reasonably acceptable to JHU, and hold JHU, The Johns Hopkins Health Systems, their present and former trustees, officers, Inventors of PATENT RIGHTS, agents, faculty, employees and students harmless as against any judgments, fees, expenses, or other costs arising from or incidental to any product liability or other lawsuit, claim, demand or other action brought as a consequence of the practice of said inventions by any of the foregoing entities, whether or not JHU or said Inventors, either jointly or severally, is named as a party defendant in any such lawsuit and whether or not JHU or the Inventors are alleged to be negligent or otherwise responsible for any injuries to persons or property. Practice of the inventions covered by LICENSED PRODUCT(S) by an AFFILIATED COMPANY or an agent or a SUBLICENSEE(S) or a third party on behalf of or for the account of Company or by a third party who purchases LICENSED PRODUCT(S) from Company, shall be considered Company's practice of said inventions for purposes of this Paragraph. The obligation of Company to defend and indemnify as set out in this Paragraph 7.1(a) shall survive the termination of this Agreement, shall continue even after assignment of rights and responsibilities to an AFFILIATED COMPANY, or SUBLICENSEE and shall not be limited by any other limitation of liability elsewhere in this Agreement.

(b) HHMI and its trustees, officers, employees, and agents (collectively, "HHMI Indemnitees"), will be indemnified, defended by counsel acceptable to HHMI, and held harmless by Company, AFFILIATED COMPANY and SUBLICENSEE from and against any claim, liability, cost, expense, damage, deficiency, loss, or obligation, of any kind or nature (including, without limitation, reasonable attorneys' fees and other costs and expenses of defense) (collectively, "Claims"), based upon, arising out of, or otherwise relating to this Agreement, including without limitation any cause of action relating to product liability. The previous sentence will not apply to any Claim that is determined with finality by a court of competent jurisdiction to result solely from the gross negligence or willful misconduct of an HHMI Indemnitee. The obligation of Company to defend and indemnify as set out in this Paragraph 7.1 (b) shall survive the termination of this Agreement, shall continue even after assignment of rights and responsibilities to an AFFILIATED COMPANY and SUBLICENSEE, and shall not be limited by any other limitation of liability elsewhere in this Agreement.

## ARTICLE 8
## CONFIDENTIALITY

**8.1 Confidentiality.** If necessary, the parties will exchange information, which they consider to be confidential. The recipient of such information agrees to accept the disclosure of said information which is marked as confidential at the time it is sent to the recipient, and to employ all reasonable efforts to maintain the information secret and confidential, such efforts to be no less than the degree of care employed by the recipient to preserve and safeguard its own confidential information, and in any event no less than a reasonable degree of care. The information shall not be disclosed or revealed to anyone except employees of the recipient who have a need to know the information and who have entered into a secrecy agreement with the recipient under which such employees are required to maintain confidential the proprietary information of the recipient and such employees shall be advised by the recipient of the confidential nature of the information and that the information shall be treated accordingly.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

The obligations of this Paragraph shall also apply to AFFILIATED COMPANIES and/or SUBLICENSEE(S) provided such information by Company. JHU's, Company's, AFFILIATED COMPANIES and SUBLICENSEES' obligations under this Paragraph shall extend until five (5) years after the termination of this Agreement.

**8.2 Exceptions.** The recipient's obligations under Paragraph 8.1 shall not extend to any part of the information:

**a.** that can be demonstrated to have been in the public domain or publicly known and readily available to the trade or the public prior to the date of the disclosure; or

**b.** that can be demonstrated, from written records to have been in the recipient's possession prior to the date of disclosure; or

**c.** that becomes part of the public domain or publicly known by publication or otherwise, not due to any unauthorized act by the recipient; or

**d.** that is demonstrated from written records to have been developed by or for the receiving party without reference to confidential information disclosed by the disclosing party.

**e.** that is required to be disclosed by law, government regulation or court order.

Without limiting any of the foregoing, it is understood that either Party or its AFFILIATED COMPANIES may make disclosure of this Agreement and the terms hereof in any filings required by the SEC (or any other securities exchange authority), may file this Agreement as an exhibit to any filing with the SEC (or any other securities exchange authority) and may distribute any such filing in the ordinary course of its business. However, to the maximum extent allowable by SEC (or any other securities authority) rules and regulations, the Parties shall be obligated to maintain the confidentiality obligations set forth herein and shall redact any confidential information set forth in such filings as may be reasonably requested by the disclosing Party.

**8.3 Right to Publish.** JHU may publish manuscripts, abstracts or the like describing the PATENT RIGHTS and inventions contained therein provided confidential information of Company as defined in Paragraph 8.1, is not included or without first obtaining approval from Company to include such confidential information. Otherwise, JHU and the Inventors shall be free to publish manuscripts and abstracts or the like directed to the work done at JHU related to the licensed technology without prior approval.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

## ARTICLE 9
## TERM & TERMINATION

**9.1 Term.** The term of this Agreement shall commence on the EFFECTIVE DATE and shall continue, in each country, until the date of expiration of the last to expire patent included within PATENT RIGHTS in that country or if no patents issue then for the ROYALTY TERM.

**9.2 Termination By Either Party.** This Agreement may be terminated by either party, in the event that the other party (a) files or has filed against it a petition under the Bankruptcy Act, makes an assignment for the benefit of creditors, has a receiver appointed for it or a substantial part of its assets, or otherwise takes advantage of any statute or law designed for relief of debtors or (b) fails to perform or otherwise breaches any of its material obligations hereunder, if, following the giving of notice by the terminating party of its intent to terminate and stating the grounds therefor, the party receiving such notice shall not have cured the failure or breach within thirty (30) days. In no event, however, shall such notice or intention to terminate be deemed to waive any rights to damages or any other remedy which the party giving notice of breach may have as a consequence of such failure or breach.

**9.3 Termination by Company.** Company may terminate this Agreement and the license granted herein, for any reason, upon giving JHU ninety (90) days written notice.

**9.4 Obligations and Duties upon Termination.** If this Agreement is terminated, both parties shall be released from all obligations and duties imposed or assumed hereunder to the extent so terminated, except as expressly provided to the contrary in this Agreement. Upon termination, both parties shall cease any further use of the confidential information disclosed to the receiving party by the other party. Termination of this Agreement, for whatever reason, shall not affect any obligation of either party, including payment obligations, which shall have accrued prior to such termination. Termination shall not affect JHU's right to recover unpaid royalties, fees, reimbursement for patent expenses, or other forms of financial compensation incurred prior to termination. Upon termination Company shall submit a final royalty report to JHU and any royalty payments, fees, unreimbursed patent expenses and other financial compensation due JHU shall become immediately payable. Furthermore, upon termination of this Agreement, all rights in and to the licensed technology shall revert immediately to JHU at no cost to JHU.

## ARTICLE 10
## MISCELLANEOUS

**10.1 Use of Name.** Company, AFFILIATED COMPANIES and SUBLICENSEE(S) shall not use the name of the Howard Hughes Medical institute, The Johns Hopkins University or The Johns Hopkins Health System or any of their constituent parts, such as the Johns Hopkins Hospital or any contraction thereof or the name of Inventors in any advertising, promotional, sales literature or fundraising documents without prior written consent from an authorized representative of JHU. Company, AFFILIATED COMPANIES and SUBLICENSEE(S) shall allow at least seven (7) business days notice of any proposed public disclosure for JHU's and/or HHMI's review and comment or to provide written consent. For the purposes of this Paragraph, notice to HHMI should be directed to:

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

Howard Hughes Medical Institute
4000 Jones Bridge Road
Chevy Chase, Maryland 20815
Attn: Office of the General Counsel

Without limiting any of the foregoing, it is understood that the Company may use the name of the Howard Hughes Medical Institute, The Johns Hopkins University or The Johns Hopkins Health System in any filings as required by the SEC (or any other securities exchange authority), and may distribute any such filing in the ordinary course of its business.

**10.2 No Partnership.** Nothing in this Agreement shall be construed to create any agency, employment, partnership, joint venture or similar relationship between the parties other than that of a licensor/licensee. Neither party shall have any right or authority whatsoever to incur any liability or obligation (express or implied) or otherwise act in any manner in the name or on the behalf of the other, or to make any promise, warranty or representation binding on the other.

**10.3 Notice of Claim.** Each party shall give the other or its representative immediate notice of any suit or action filed, or prompt notice of any claim made, against them arising out of the performance of this Agreement or arising out of the practice of the inventions licensed hereunder.

**10.4 Product Liability.** Prior to initial human testing or first commercial sale of any LICENSED PRODUCT(S) in any particular country, Company shall establish and maintain, in each country in which Company or an AFFILIATED COMPANY or SUBLICENSEE shall test or sell LICENSED PRODUCT(S), product liability or other appropriate insurance coverage in the minimum amount of [***] dollars ($[***]) per claim and will annually present evidence to JHU that such coverage is being maintained. Upon JHU's request, Company will furnish JHU with a Certificate of Insurance of each product liability insurance policy obtained. JHU and HHMI shall be listed as an additional insureds in Company's said insurance policies. If such Product Liability insurance is underwritten on a 'claims made' basis, Company agrees that any change in underwriters during the term of this Agreement will require the purchase of 'prior acts' coverage to ensure that coverage will be continuous throughout the term of this Agreement.

**10.5 Governing Law.** This Agreement shall be construed, and legal relations between the parties hereto shall be determined, in accordance with the laws of the State of Maryland applicable to contracts solely executed and wholly to be performed within the State of Maryland without giving effect to the principles of conflicts of laws. Any disputes between the parties to the Agreement shall be brought in the state or federal courts of Maryland. Both parties agree to waive their right to a jury trial.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**10.6 Notice.** All notices or communication required or permitted to be given by either party hereunder shall be deemed sufficiently given if transmitted by facsimile with confirmed transmission, mailed by registered mail or certified mail, return receipt requested, or sent by overnight courier, such as Federal Express, to the other party at its respective address set forth below or to such other address as one party shall give notice of to the other from time to time hereunder. Faxed notices shall be deemed to be received on the first business day following the date of confirmed transmission. Mailed notices shall be deemed to be received on the third business day following the date of mailing. Notices sent by overnight courier shall be deemed received the following business day.

If to Company:

Rosetta Genomics Ltd.
10 Plaut St.
Rehovot, 76706 Israel
Attn: General Counsel
Fax: +972 8 948 4766

If to JHU:

Technology Transfer
Johns Hopkins University
100 N. Charles Street
5th Floor
Baltimore, MD 21201
Attn: A20281
Fax: (410) 516-4411

**10.7 Compliance with All Laws.** In all activities undertaken pursuant to this Agreement, both JHU and Company covenant and agree that each will in all material respects comply with such Federal, state and local laws and statutes, as may be in effect at the time of performance and all valid rules, regulations and orders thereof regulating such activities.

**10.8 Successors and Assigns**. Neither this Agreement nor any of the rights or obligations created herein, except for the right to receive any remuneration hereunder, may be assigned by either party, in whole or in part, without the prior written consent of the other party, except that either party shall be free to assign this Agreement to an AFFILIATED COMPANY or in connection with any sale of substantially all of its assets without the consent of the other. This Agreement shall bind and inure to the benefit of the successors and permitted assigns of the parties hereto.

**10.9 No Waivers; Severability.** No waiver of any breach of this Agreement shall constitute a waiver of any other breach of the same or other provision of this Agreement, and no waiver shall be effective unless made in writing. Any provision hereof prohibited by or unenforceable under any applicable law of any jurisdiction shall as to such jurisdiction be deemed ineffective and deleted herefrom without affecting any other provision of this Agreement. It is the desire of the parties hereto that this Agreement be enforced to the maximum extent permitted by law, and should any provision contained herein be held by any governmental agency or court of competent jurisdiction to be void, illegal and unenforceable, the parties shall negotiate in good faith for a substitute term or provision which carries out the original intent of the parties.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**10.10 Entire Agreement; Amendment**. Company and JHU acknowledge that they have read this entire Agreement and that this Agreement, including the attached Exhibits constitutes the entire understanding and contract between the parties hereto and supersedes any and all prior or contemporaneous oral or written communications with respect to the subject matter hereof, all of which communications are merged herein. It is expressly understood and agreed that (i) there being no expectations to the contrary between the parties hereto, no usage of trade, verbal agreement or another regular practice or method dealing within any industry or between the parties hereto shall be used to modify, interpret, supplement or alter in any manner the express terms of this Agreement; and (ii) this Agreement shall not be modified, amended or in any way altered except by an instrument in writing signed by both of the parties hereto.

**10.11 Delays or Omissions.** Except as expressly provided herein, no delay or omission to exercise any right, power or remedy accruing to any party hereto, shall impair any such right, power or remedy to such party nor shall it be construed to be a waiver of any such breach or default, or an acquiescence therein, or in any similar breach or default be deemed a waiver of any other breach or default theretofore or thereafter occurring. Any waiver, permit, consent or approval of any kind or character on the part of any party of any breach or default under this Agreement, or any waiver on the part of any party of any provisions or conditions of this Agreement, must be in writing and shall be effective only to the extent specifically set forth in such writing. All remedies either under this Agreement or by law or otherwise afforded to any party, shall be cumulative and not alternative.

**10.12 Force Majeure.** If either party fails to fulfill its obligations hereunder (other than an obligation for the payment of money), when such failure is due to an act of God, or other circumstances beyond its reasonable control, including but not limited to fire, flood, civil commotion, riot, war (declared and undeclared), revolution, or embargoes, then said failure shall be excused for the duration of such event and for such a time thereafter as is reasonable to enable the parties to resume performance under this Agreement, provided however, that in no event shall such time extend for a period of more than one hundred eighty (180) days.

**10.13 Further Assurances.** Each party shall, at any time, and from time to time, prior to or after the EFFECTIVE DATE of this Agreement, at reasonable request of the other party, execute and deliver to the other such instruments and documents and shall take such actions as may be required to effectively carry out the terms of this Agreement.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**10.14 Survival**. All representations, warranties, covenants and agreements made herein and which by their express terms or by implication are to be performed after the execution and/or termination hereof, or are prospective in nature, shall survive such execution and/or termination, as the case may be. This shall include Paragraphs 3.7 (Late Payments), 5.2 (Records), and Articles 6, 7, 8, 9, and 10.

**10.15 Third Party Beneficiary.** HHMI is not a party to this Agreement and has no liability to any licensee, SUBLICENSEE(S) or user of anything covered by this Agreement, but HHMI is an intended third-party beneficiary of the Agreement and certain of its provisions are for the benefit of HHMI and are enforceable by HHMI in its own name.

**10.16 Headings.** Article headings are for convenient reference and not a part of this Agreement. All Exhibits are incorporated herein by this reference.

**10.17 Counterparts.** This Agreement may be executed in counterparts, each of which shall be deemed an original and all of which when taken together shall be deemed but one instrument.

**10.18** NEITHER PARTY SHALL BE LIABLE TO THE OTHER PARTY FOR ANY PUNITIVE OR EXEMPLARY DAMAGES, RELATED TO AND/OR CONNECTED WITH THE PERFORMANCE OF THIS AGREEMENT, EVEN IF THE FIRST PARTY IS ADVISED OR SHOULD HAVE KNOWN OF THE POSSIBILITY OF SUCH DAMAGES. THIS LIMITATION SHALL NOT APPLY TO A PARTY'S DUTY OF INDEMNIFICATION AGAINST CLAIMS BROUGHT BY THIRD PARTIES.

**10.19** The terms of this Agreement supersede any previous agreements or any other representations or understandings by the parties to this Agreement with regard to the PATENT RIGHTS, including the notice of termination from Company dated May 30, 2011.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

IN WITNESS WHEREOF, this Agreement shall take effect as of the EFFECTIVE DATE when it has been executed below by the duly authorized representatives of the parties.

**THE JOHNS HOPKINS UNIVERSITY**

/s/ Glen Steinbach
Glen Steinbach
Director
Johns Hopkins Technology Transfer

8/8/11
(Date)

**ROSETTA GENOMICS LTD**

/s/Ayelet Hajt
Name: Ayelet Hajt
Title: EVP R&D

8/14/2011
(Date)

/s/ Tami Fishman Jutkowitz
Name: Tami Fishman Jutkowitz
Title: General Counsel

8/14/2011
(Date)

EXHIBIT A. LICENSE FEE & ROYALTIES.
EXHIBIT B. SALES & ROYALTY REPORT FORM.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**EXHIBIT A**

**LICENSE FEE & ROYALTIES**

1. **License Fee**: The license fee due under Paragraph 3.1 is one hundred twenty-five thousand dollars ($125,000). The amendment fee due under Paragraph 3.1 is [***] dollars ($[***]).

2. **Minimum Annual Royalties**: The minimum annual royalties due on anniversaries of the EFFECTIVE DATE pursuant to Paragraph 3.2:

   1st anniversary: [***] dollars ($[***]).

   2nd anniversary: [***] dollars ($[***]).

   3rd anniversary: [***] dollars ($[***]).

   4th anniversary: [***] dollars ($[***]).

   5th anniversary and thereafter: [***] dollars ($[***]).

3. **Royalties**: The running royalty rate payable under Paragraph 3.3 is:
   Licensed Product – [***]%

4. **Sublicense consideration**: The percent sublicense consideration payable under Paragraph 3.5 is [***] percent ([***]%).

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**EXHIBIT B**

**QUARTERLY SALES & ROYALTY REPORT**

**FOR LICENSE AGREEMENT BETWEEN ROSETTA GENOMICS LTD AND**

**THE JOHNS HOPKINS UNIVERSITY DATED**

---

FOR PERIOD OF _____ TO _____

TOTAL ROYALTIES DUE FOR THIS PERIOD $_____

| PRODUCT ID | PRODUCT NAME | *JHU REFERENCE | 1st COMMERCIAL SALE DATE | TOTAL NET SALES/ SERVICES | ROYALTY RATE | AMOU |
|---|---|---|---|---|---|---|
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |

* Please provide the JHU Reference Number or Patent Reference

This report format is to be used to report quarterly royalty statements to JHU. It should be placed on Company letterhead and accompany any royalty payments due for the reporting period. This report shall be submitted even if no sales are reported.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**EXHIBIT 4.14.1**

Teva Pharmaceutical Industries Ltd.

To: January 17, 2011

Mr. Ron Kamienchic
Executive Director
Commercialization Operation
Rosetta Genomics Ltd.
15 Exchange Place, Suite 500. Jersey City NJ 07302
Tel: 201.946.0561
Fax: 201.946.0562

With copy to:

General Counsel
Rosetta Genomics Ltd.
10 Plaut St, Rehovot, Israel
Tel: +972.73.222.0700
Fax: +972.73.222.0701

**to be delivered by fax**

Subject: Amendment to the Exclusive Distribution Agreement

In light of the difficulties and challenges that in executing the Exclusive Testing and Administrative Services Agreement dated December 24, 2008 ("Agreement"), and in order to find a suitable solution, the parties hereby agree to change the terms of the Agreement and to release both parties to act on a non-exclusive basis with regard to the miRview mets1 and miRview mets2 tests. Hence, each party shall have the right to distribute and/or supply the above mentioned tests and/or competing service to and/or from any third party. In case the parties will decide in the future to change back the terms of the Agreement to its original condition (i.e, exclusivity basis), the parties will sign a new agreement reflecting such change.

Teva hereby notify Rosetta that during a period of 3 month upon delivery of this letter, it will reexamine the collaboration with Rosetta and decide whether to continue the ongoing collaboration with Rosetta on a non-exclusive basis or to terminate the Agreement in full.

Teva Pharmaceutical Industries Ltd.

Sincerely,

| | |
|---|---|
| */s/ Lior Soussan-Gutman* | */s/ Ron Mayron* |
| Lior Soussan-Gutman | Ron Mayron |
| Teva Pharmaceutical Industries Ltd | Teva Pharmaceutical Industries Ltd. |

On behalf of Rosetta Genomics Ltd.:
I, _____, the undersigned on behalf of Rosetta Genomics Ltd hereby agree to the terms and conditions set out above.

Signature:

_____

Date:

_____

**Teva Pharmaceutical Industries Ltd.**

12 Hatrufa St., P.O.Box 8077 Sapir Industrial Zone, Netanya 42504 Israel. Tel: +972.9.8639777 Fax. +972.9.8361344
www.tevapharm.com

# LICENSE AGREEMENT

This License Agreement (**"Agreement"**) is made effective as of October 10, 2011 (**"Effective Date"**) by and between Rosetta Genomics Ltd., a corporation organized under the laws of Israel, having its principal place of business at 10 Plaut St., Rehovot, Israel, 76706 (**"Rosetta"**), and Avatao Biotech, a Chinese corporation with its principal place of business at 209 Chengfeng Rd. Yushanzhen, Kunshan, China 215300 (**"Avatao"**), Rosetta and Avatao are each hereafter referred to individually as a "Party" and together as the **"Parties"**.

## BACKGROUND

A. Rosetta owns or otherwise has rights to certain intellectual property relating to micro-RNA-based laboratory diagnostic tests.

B. Avatao desires to obtain a license from Rosetta under such intellectual property rights to develop and commercialize Licensed Tests in the Territory (each as defined below).

C. Rosetta desires to grant such license to Avatao.

NOW, THEREFORE, in consideration of the mutual covenants contained herein, and for other good and valuable consideration, the receipt and adequacy of which are hereby acknowledged, the Parties hereby agree as follows:

## 1. DEFINITIONS

Terms used in this Agreement with an initial capital letter shall have the meanings given in this Article 1 or elsewhere herein.

1.1 **"Affiliate"** means any corporation, firm, limited liability company, partnership or other entity that directly controls or is controlled by or is under corm-non control with a Party to this Agreement. For purposes of this definition "control" means ownership, directly or indirectly through one or more Affiliates, of fifty percent (50%) or more of the shares of stock entitled to vote for the election of directors, in the case of a corporation, or fifty percent (50%) or more of the equity interests in the case of any other type of legal entity, status as a general partner in any partnership, or any other arrangement whereby a Party has the power to direct the management or policies of an entity, whether through the ownership of voting securities or by contract relating to voting rights or corporate governance. An entity shall be deemed to be an Affiliate of a Party only for so long as such control exists.

1.2 **"Calendar Year"** means each annual period beginning on January 1 and ending on December 31.

1.3 **"Commercial Technology Platforms"** shall mean Real-Time PCR Technology, MGB Probes, microarray or other generally commercially available technology platforms necessary or useful to perform Licensed Tests.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

1.4 **"Confidential Information"** means with respect to a Party (the **"Receiving Party"** all information which is disclosed by or on behalf of the other Party (the **"Disclosing Party"**) to the Receiving Party hereunder or to any of the Receiving Party's employees, consultants or Affiliates, except to the extent that the Receiving Party can demonstrate by written record or other suitable physical or electronic evidence that such information, (a) as of the date of disclosure is demonstrably known to the Receiving Party or its Affiliates other than by virtue of a prior confidential disclosure to such Party or its Affiliates; (b) as of the date of disclosure is, or subsequently becomes, publicly known, through no fault or omission of the Receiving Party; (c) is obtained from a Third Party having a lawful right to make such disclosure free from any obligation of confidentiality to the Disclosing Party; or (d) is independently developed by or for the Receiving Party without reference to or reliance upon any Confidential Information of the Disclosing Party. Without limiting the generality of the foregoing, Confidential Information of Rosetta includes the items of Technology transferred by Rosetta to Avatao pursuant to Section 2.3.1.

1.5 **"Confidentiality Agreement"** means that certain Confidential Disclosure Agreement entered into by and between the Parties dated [_____].

1.6 **"Consulting FIE Rate"** means a rate of [***] dollars ($[***]) per FTE per hour. The Consulting FTE Rate shall be adjusted annually for each Calendar Year after 2011 to be equal to the Consulting FTE Rate for the previous Calendar Year plus a percentage increase equal to the percentage increase in the Israeli Consumer Price Index (as published by the Israeli government on http://www1.cbs.gov.il or such other means of publication as may be in effect from time to time) since the Effective Date or the date of the last adjustment.

1.7 **"Control"** or **"Controlled"** means with respect to a particular Patent Right or item of Technology, the possession by a Party of the ability to grant a license or sublicense of such Patent Right or item of Technology as provided for herein, without violating the terms of any arrangement or agreement between the granting Party and any Third Party, and further subject to Section 2.8.

1.8 **"Cover"** means that the use, manufacture, sale, offer for sale or importation of the subject matter in question by an unlicensed entity would infringe a claim of a Patent Right.

1.9 **"Exploit"** (and in the correlative forms, **"Exploiting"** or **"Exploitation"**) means to develop, make, have made, use, sell, have sold, offer for sale, have offered for sale, market, have marketed, import and have imported. For clarity, the performance of a Licensed Test shall constitute an Exploitation thereof. Notwithstanding the foregoing, "Exploit" excludes any sale or other disposition of a Licensed Test in kit form.

1.10 **"First Commercial Sale"** means the date of the first arm's length sale or other supply or performance of a Licensed Test to or for a Third Party, by or on behalf of Avatao or any Affiliate of Avatao in the Territory. For clarity, the performance of a Licensed Test solely for purposes of generating data for the validation of such Licensed Test, without the receipt of any payment or other consideration from a Third Party, shall not be deemed to be a First Commercial Sale.

1.11 **"First Licensed Products"** means the diagnostic tests developed by Rosetta known as miRview® nets test and miRview® mets$^2$ test in the form made available by Rosetta as of the Effective Date.

1.12 **"Improvements"** means all improvements, discoveries, inventions, developments, enhancements, updates, new features, derivative works, Technology and other intellectual property, whether or not patentable or protectable, arising after the Effective Date and necessary err useful for the Exploitation of the Licensed Tests, to the extent Controlled by a Avatao or its Affiliates.

1.13 **"Licensed Field"** means the use of a Licensed Test for the diagnosis of the cancer indications in humans for which such Licensed Test has been designed per the written specifications provided by Rosetta. For the purposes of this definition, "diagnosis" means use for the measurement, observation or determination of (x) the presence of a human disease, (y) the stage, progression or severity of a human disease, and/or (z) the risk of contracting a human disease. For clarity, the Licensed Field excludes (i) any use for diagnosis of any indication other than cancer indications that are listed in Rosetta's specification for a given Licensed Test, and (ii) all human therapeutic or prophylactic applications and all applications in plants or animals.

1.14 **"Licensed IP"** means the Licensed Technology, the Licensed Patent Rights and Rosetta's intellectual property rights in the [***].

1.15 **"Licensed Patent Rights"** means all Patent Rights issued or pending in the Territory that are Controlled by Rosetta as of the Effective Date or that become Controlled by Rosetta or its Affiliates during the Term that Cover any Licensed Tests. Licensed Patent Rights include the patents and patent applications listed on Exhibit A. Following the Second License Effective Date, Exhibit A shall be updated to include, depending on Avatao's election, any then-existing Product Patents. Some examples include (a) the miRview® Lung diagnostic test, including any Chinese patents filed by Rosetta or its Affiliates claiming priority to [***] (U.S provisional application) or the full utility application directed to the subject matter of such provisional application, or (b) the miRview® Kidney diagnostic test, including any Chinese patents filed by Rosetta or its Affiliates claiming priority to [***] (U.S provisional application) or the full utility application directed to the subject matter of such provisional application,

1.16 **"Licensed Tests"** means, as applicable, the First Licensed Products and the Second Licensed Product.

1.17 **"Licensed Technology"** means all Technology which is necessary or deemed by Rosetta to be useful to Exploit Licensed Tests in the Territory and is owned or otherwise Controlled by Rosetta as of the Effective Date or during the Term.

1.18 **"Limited Exclusive"** means with respect to the licenses granted to Avatao under Sections 2.1.1, 2.1.2 and 2.1.3 hereof, exclusive in the Territory even as against Rosetta and its Affiliates, but subject to any co-exclusivity terms and other retained rights of Upstream Licensors and their licensees (other than Rosetta and its Affiliates) of the Upstream Licensed Patents and/or any Upstream Licensed Technology.

1.19 **[***]**.

1.20 **"MGB Probe"** shall mean certain quantitative gene expression probe technology that, as of the Effective Date, is commercialized and licensed out by Wescor, Inc., or its affiliates or successors or its or their licensees and used in conjunction with Real-Time PCR Technology in the performance of certain of the Licensed Tests.

1.21 **"Net Sales"** means the amount of gross invoiced sale price or fee received by Avatao or its Affiliates for the sale or other supply or performance of each Licensed Test, less the following amounts incurred or paid by Avatao or its Affiliates with respect to such sales but only insofar as they actually pertain to the sale of such Licensed Test and are separately itemized or accounted for:

i) all trade, case and quantity credits, discounts or rebates actually given;

ii) allowances or credits for refunds;

iii) sales taxes (including value-added tax); and

iv) outbound transportation, shipment, packing and delivery charges, as well as prepaid freight (including shipping insurance) actually incurred.

For clarity, the performance or other use of a Licensed Test for the direct or indirect benefit of another entity for a payment shall be deemed to be a "sale" of such Licensed Test for purposes of calculating Net Sales. If no sales price is invoiced for such Exploitation, the sales price for such performance or other use shall be deemed to be the amount that would be billed to a Third Party in an independent arm's-length transaction.

1.22 **"Patent Rights"** means all national, regional and international patents and patent applications, including, without limitation, certificates of invention and applications for certifications of invention, utility models, petty patents, design patents, registered designs and registered design applications, industrial designs and industrial design applications and registrations, reissues, reexaminations, extensions, supplementary protection certificates, substitutions, confirmations, registrations, revalidations, renewals, term restorations, additions, provisionals, converted provisionals, continuations, continuations-in-part, divisionals, continued prosecution applications, and requests for continued examination thereof.

1.23 **"Platform Patent(s)"** shall mean all Patents in the Territory owned or Controlled by Rosetta and/or its Affiliates that are necessary or useful for the Exploitation of a Licensed Test and Cover one or more compositions of matter, including all composition of matter claims directed to microRNAs within the Licensed Patent Rights.

1.24 **"Product Patent(s)"** shall mean all Patents in the Territory owned or Controlled by Rosetta and/or its Affiliates that are necessary or useful for any of the Licensed Tests and are specifically directed to one or more elements of any of the Licensed Tests that are unique to such Licensed Test (as contrasted to methods of performance in general of tests based on microRNAs or composition of matter claims that arc relevant to multiple indications), including any divisional, continuations, substitutions, continuations-in-part, extensions, renewals, re-examinations or reissues of such Patents in the Territory. For clarity, the Product Patents include all methods of use claims directed to the use of microRNAs for the indications that are the targets of the Licensed Tests, but exclude all composition of matter claims directed to microRNAs.

1.25 **"Real-Time PCR Technology"** shall mean certain read-time polymerase chain reaction technology that, as of the Effective Date, is commercialized and licensed out by F. Hoffmann-La Roche Ltd (or its affiliates or its or their licensees) and used in the performance of the Licensed Tests.

1.26 **"Regulatory Approval"** means with respect to the Licensed Tests any clearance or approval required by a Regulatory Authority and any other governmental clearances or approvals required in the Territory to Exploit such Licensed Tests.

1.27 **"Regulatory Authority"** means the SFDA and any other agency or authority with the power to regulate laboratory-run diagnostic tests in the Territory.

1.28 **"Rosetta IP"** means all Licensed IP that is solely owned by Rosetta.

1.29 **"RLT IP"** means all Licensed IP that is licensed to Rosetta pursuant to the Rockefeller Agreement and sublicense to Avatao under this Agreement.

1.30 **"Second License Effective Date"** means the date, at Avatao's election but in any event prior to September 30, 2012, upon which Avatao obtains a license pursuant to Section 2.1.2 hereof.

1.31 **"Second Licensed Product"** means any existing approved products of Rosetta's portfolio, suitable to market in China as determined by Avatao and with Rosetta's consent.

1.32 **"SFDA"** means the State Food and Drug Administration in The People's Republic of China ("FRC") or any other agency of PRC that is responsible for the regulation of laboratory-run diagnostic tests in PRC.

1.33 **"Technology"** means and includes any and all unpatented, proprietary ideas, inventions, discoveries, biologic materials. data, results, formulae, designs, specifications, assays, controls, methods, processes, formulations, techniques, ideas, know-how, technical information, trade secrets and processes.

1.34 **"Term"** means the period commencing on the Effective Date and continuing until the expiration or termination of this Agreement.

1.35 **"Territory"** means The People's Republic of China, including its special administrative regions Hong Kong, Taiwan and Macau.

1.36 **"Third Party"** means any entity or person other than Avatao, Rosetta and their respective Affiliates.

1.37 **"THM"** means Tel Hashomer Medical Research Infrastructure and Services Ltd.

1.38 **"THM IP"** means all Licensed IP that is licensed to Rosetta pursuant to the THM Agreement and sublicensed to Avatao under this Agreement.

1.39 **"Upstream License Agreement"** means, subject to Section 2.8, any license agreements between Rosetta and a Third Party pursuant to which certain Licensed IP Controlled by Rosetta is licensed to Rosetta by such Third Party, as may be amended from time to time, including but not limited to the following: (a) Diagnostic License Agreement between The Rockefeller University and Rosetta. dated May 4, 2006 (the **"Rockefeller Agreement"**); and (b) Research and License Agreement between Tel Hashomer Medical Research Infrastructure and Services Ltd and Rosetta, dated July 30, 2008 (the **"THM Agreement"**). Notwithstanding the foregoing, the Upstream License Agreements exclude any Commercial Technology Platform agreements.

1.40 **"Upstream Licensed Patents"** means all Licensed Patent Rights that are licensed to Rosetta pursuant to an Upstream License Agreement and sublicensed to Avatao under this Agreement.

1.41 **"Upstream Licensed Technology"** means all Licensed Technology that is licensed to Rosetta pursuant to an Upstream License Agreement and sublicensed to Avatao under this Agreement.

1.42 **"Upstream Licensors"** means each of The Rockefeller University, THM, and any licensor of an Upstream License Agreement pursuant to which Rosetta Controls (subject to Section 2.8) any Upstream Licensed Patents or Upstream Licensed Technology after the Effective Date, and any successors in interest to any of the foregoing licensors.

1.43 **"Valid Claim"** means a claim in an issued, unexpired patent or in a pending patent application within the Licensed Patent Rights that (a) has not been finally cancelled, withdrawn, abandoned or rejected by any administrative agency or other governmental body of competent jurisdiction, (b) has not been revoked, held invalid, or declared unpatentable or unenforceable in a decision of a court or other governmental body of competent jurisdiction that is unappealable or unappealed within the time allowed for appeal, (c) has not been rendered unenforceable through disclaimer or otherwise, and (d) is not lost through an interference proceeding,

1.44 **Additional Definitions.** Each of the following terms shall have the meaning described in the corresponding section of this Agreement indicated below:

| **Term** | **Section** |
|---|---|
| Agreement | Introduction |
| Avatao | Introduction |
| Diligence Milestone | 3.1.2 |
| Disclosing Party | 1.4 |
| Effective Date | Introduction |
| Initial Payment | 4.1 |
| Losses | 8.1 |
| Milestone Payment | 4.2 |
| Party and Parties | Introduction |
| PRC | 1.32 |
| Receiving Party | 1.4 |
| Rockefeller Agreement | 1.39 |
| Rosetta | Introduction |
| Rosetta Indemnitees | 8.1 |
| Royalty Term | 4.3 |
| Second Licensed Product Fee | 4.1 |
| THM Agreement | 1.39 |

## 2. GRANT OF RIGHTS AND RESTRICTIONS

### 2.1 License to Avatao.

2.1.1 **Licensed Patent Rights and Licensed Technology for First Licensed Products.** Subject to the terms and conditions set forth herein, Rosetta hereby grants to Avatao and, subject to Section 2.2, Avatao's Affiliates, a Limited Exclusive, non-sublicensable, royalty-bearing (in accordance with Section 4.3), non-transferable (except as provided in Section 11.10) license under Rosetta's intellectual property rights in the Licensed Patent Rights and Licensed Technology to Exploit the First Licensed Products in the Licensed Field in the Territory during the Term. For clarity, the foregoing license excludes the sale or other disposition of any Licensed Test for performance in any location other than a qualified laboratory operated by Avatao, or, subject to Section 2.2, an Avatao Affiliate.

2.1.2 **Election of Second Licensed Product; Grant of License for Second Licensed Product.** Within sixty (60) days after the Effective Date, Avatao shall notify Rosetta in writing as to Avatao's election of the second product. Upon Avatao's payment of the Second Licensed Product Fee pursuant to Section 4.1, Rosetta shall grant to Avatao and, subject to Section 2.2, Avatao's Affiliates. a Limited Exclusive, non-sublicensable, royalty-bearing (in accordance with Section 4.3), non-transferable (except as provided in Section 11.10) license under Rosetta's intellectual property rights in the Licensed Patent Rights and Licensed Technology to Exploit the Second Licensed Products in the Licensed Field in the Territory from the date of payment of the Second Licensed Product Fee to the end of the Term. For clarity, the foregoing license excludes the sale or other disposition of any Licensed Test for performance in any location other than a qualified laboratory operated by Avatao, or, subject to Section 2.2, an Avatao Affiliate.

2.1.3 **[***]**

a. [***].

b. [***].

2.2 **Extension of License to Avatao's Affiliates.** In the event that Avatao wishes any of its Affiliates in the Territory to benefit from the licenses granted in Sections 2.1.1, 2.1.2 and 2.1.3, Avatao shall (a) notify Rosetta in writing of such fact and provide Rosetta with the full name and primary business address of the relevant Affiliate, and (b) require such Affiliate to confirm in writing to Rosetta that it has read and will comply with the following Articles and Sections of this Agreement, *mutatis mutandis*: 2.4 (Restrictions on Source of Specimens), 2.7 (Compliance with Upstream License Agreements), 2.9 (Licenses For Commercial Technology Platform), 4.5.1 (Record Keeping), 4.5.2 (Review), 5 (Treatment of Confidential information), 6.2 (Infringement), and 10 (Disputes), and all definitions used in the foregoing. Any breach by an Avatao Affiliate of the foregoing provisions shall be deemed to be a breach by Avatao. In no event shall any Avatao Affiliate have the right to grant sublicenses or assign all or any part of its rights hereunder, Except as otherwise set forth in Section 8.1, neither Rosetta nor Avatao intend that Rosetta shall have any liability to any Avatao Affiliate in connection with this Agreement, whether on the basis of direct contractual liability, third party beneficiary status or any other legal or equitable basis, but in the event that such liability may nonetheless arise (other than pursuant to Section 8.1), Article 10 shall apply thereto. Any license granted hereunder to an Avatao Affiliate shall terminate immediately and automatically if such entity ceases to qualify under the definition of "Affiliate" provided in Article 1.

2.3 **Technology Transfer.**

2.3.1 **Technology Transfer.** Rosetta will use commercially reasonable efforts to deliver to Avatao the items of Licensed Technology identified in Exhibit B within [***] ([***]) [***] after the Effective Date. Avatao shall ensure that, at all times after the Effective Date, it shall have appropriately qualified personnel available upon ten (10) business days' notice to receive such technology transfer from Rosetta, which may include training as identified in Exhibit B. Avatao agrees that Avatao shall send two (2) appropriately qualified personnel to Rosetta's facilities, either in Philadelphia, Pennsylvania, USA or Rehovet, Israel, as chosen by Avatao, to receive the training specified in Exhibit B. Such in-person training shall take place on dates selected jointly by Rosetta and Avatao team. Rosetta shall not be required to provide any training to Avatao at Avatao's facilities except as may be agreed by Rosetta in its sole discretion, and subject to Avatao's pre-payment to Rosetta of an advance to cover the reasonable costs of travel to Avatao's facilities, lodging, meals and any other reasonable travel-related costs. Rosetta shall provide to Avatao receipts documenting all such costs and shall refund any overpayment of such advance.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

2.3.2 **Assistance.** Following the delivery of the items of Licensed Technology pursuant to Section 2.3.1, Rosetta will provide, at no cost to Avatao, up to [***] ([***])[***] of consultation time per product by telephone, videoconference or e-mail to assist Avatao with implementing the Licensed Technology in Avatao's laboratories for purposes of performing Licensed Tests in the Territory. If Avatao requires additional consultation time beyond [***] ([***])[***]. Rosetta will use commercially reasonable efforts to provide such additional consultation time at the Consulting FTE Rate via telephone, e-mail or videoconference as may be agreed between the Parties. Any such additional consulting time must be used within [***] ([***])[***] after the Effective Date. Fees for such additional consultation time shall be paid within thirty (30) days after Rosetta's provision of an invoice for such fees. In no event shall Rosetta be required to send its personnel to Avatao's facilities, except as may be agreed by Rosetta in its sole discretion, and subject to Avatao's pre-payment to Rosetta of an advance to cover the reasonable costs of travel to China, lodging, meals and any other reasonable travel-related costs. Rosetta shall provide to Avatao receipts documenting all such costs and shall refund any overpayment of such advance.

2.4 **Restrictions on Source of Specimens.** Avatao agrees that Avatao and its Affiliates shall not conduct Licensed Tests using specimens that were initially collected from patients at a facility outside the Territory other than specimens properly obtained solely for the purpose of validating such Licensed Tests, the results of which are not disclosed to, or used for diagnostic purposes with respect to the donor who provided the specimen.

2.5 **Reservation of Rights.** As between the Parties, Rosetta or its licensors, as applicable. shall control and retain ownership of all right, title and interest in and to the Licensed IP, and no other license, either express or implied or by implication or estoppel, is granted hereunder with respect to any Technology or intellectual property rights of Rosetta or its licensors except as expressly stated in Sections 2.1.1. 2.1.2 and 2.1.3 and Rosetta reserves all rights in and to the same.

2.6 **Third Party Beneficiaries.** Except as set forth in Sections 2.7 and 8.1, this Agreement is not intended to be for the benefit of and shall not be enforceable by any Avatao Affiliate or any Third Party, and nothing in this Agreement, express or implied, is intended to or shall confer on any Avatao Affiliate or any Third Party any rights (including third party beneficiary rights), remedies, obligations or liabilities under or by reason of this Agreement.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

2.7 **Compliance with Upstream License Agreements.**

2.7.1 Avatao acknowledges its receipt prior to the Effective Date of copies of the Rockefeller Agreement and THM Agreement. Avatao agrees to accept and comply, and to ensure that its Affiliates that receive the benefits of the licenses granted in Sections 2.1.1, 2.1.2 and 2.1.3 accept and comply, with the following:

a. All terms and conditions of the Rockefeller Agreement except for Rosetta's payment and reporting obligations.

b. Article 8 of the THM Agreement.

c. Avatao agrees that neither it nor its Affiliates shall have any claims and/or demands of whatever type and nature against THM or its Affiliates, including in the event of termination of the THM Agreement by THM according to its terms.

d. Avatao acknowledges and accepts that the sublicense or THM's rights under Sections 2.1.1 and 2.1.2 hereof shall expire automatically upon the termination of the TIIM Agreement for any reason, provided that, THM's termination of such sublicense license shall in no way affect any Limited Exclusive rights Avatao may have obtained or obtain in the future by virtue of Rosetta's joint ownership to inventions which were developed under the THM Agreement,

2.8 **After-acquired Rights.** In order for an Upstream License Agreement entered into by Rosetta after the Effective Date to be deemed to be Controlled by Rosetta, Avatao must first accept in writing any (i) obligations thereunder that are required by the Upstream Licensor to be imposed upon sublicensees (other than Rosetta's own payment and reporting obligations) as a condition of the grant of a sublicense thereunder, and (ii) payment obligations arising in connection with Avatao's Exploitation of Licensed Tests, whether payable directly by Avatao to the Upstream Licensor or payable by Rosetta to the Upstream Licensor.

2.9 **Licenses for Commercial Technology Platform.** As between the Parties, Avatao shall be responsible for obtaining, and Avatao agrees to obtain, at its own expense, all necessary Licenses for any Commercial Technology Platform used in connection with the Exploitation of Licensed Tests.

## 3. COMMERCIALIZATION OF LICENSED TESTS

3.1 **Diligence.** Avatao shall use commercially reasonable efforts to bring each of the Licensed Tests to market in the Territory through a thorough, vigorous and diligent development and commercialization program. As used in this Section 3.1, Avatao's "commercially reasonable efforts" means at least the same scope and level of efforts and at least the same commitment of resources that a diagnostic company in the Territory would expend for its own proprietary diagnostic products and services that have commercial potential similar to that of the Licensed Tests.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

3.1.1 **Retention of Exclusivity.** If Avatao's and its Affiliates' Net Sales of Licensed Tests in the Territory for the third year after the tests are approved for marketing in China are less than [***] dollars ($[***]), Rosetta shall have the right to convert the Limited Exclusive licenses set forth in Sections 2.1.1, 2.1.2 and 2.1.3 to non-exclusive licenses by written notice to Avatao and payment to Avatao of an amount equal to the amounts actually paid by Avatao to Rosetta pursuant to Section 4.1 less (i) any amounts paid by Rosetta to any Upstream Licensors on account of the payments made by Avatao to Rosetta pursuant to Section 4.1, and (ii) any taxes paid by Rosetta on such amounts.

3.1.2 **Diligence Milestones.** Without limiting Section 3.1 or 3.1.1, Avatao shall use commercially reasonable efforts to accomplish the following by the dates set forth below (each, a "Diligence Milestone"):

| **Diligence Milestone** | **Achievement Date** |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

3.2 **Updates and Reports.** Avatao shall provide Rosetta with written reports no less frequently than quarterly during the first twelve (12) months of the Term and semi-annually during the remainder of the Term summarizing Avatao's efforts to develop and commercialize Licensed Tests hereunder and providing a rolling annual forecast for Avatao's and its Affiliates' gross sales and Net Sales of Licensed Tests. Such report shall include, as a minimum, information sufficient to enable Rosetta to satisfy its reporting requirements to the Upstream Licensors and to ascertain progress by Avatao toward meeting the diligence requirements under this Agreement, and any other information reasonably required by Rosetta. In addition, Avatao shall provide Rosetta with prompt written notice of the occurrence of the First Commercial Sale of each Licensed Test in the Territory. Such reports provided by Avatao shall be considered Confidential Information of Avatao.

3.3 **Regulatory Approvals.** Avatao shall not offer for sale or sell, and shall not permit its Affiliates to offer for sale or sell, any Licensed Test prior to having obtained all required Regulatory Approvals in the Territory. Avatao will provide copies of all documents submitted to any Regulatory Authority in the Territory to Rosetta. Avatao shall provide Rosetta with a summary written in English of such documents but shall not be obliged to translate the documents themselves into English.

3.4 **Compliance With Laws.** Avatao shall comply with all laws, rules, regulations and guidelines applicable to the development, use, performance, promotion, advertisement and sale of Licensed Tests in the Licensed Field in the Territory.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

3.5 **Marking.** Avatao shall mark, and shall cause its Affiliates to mark, to the extent permitted by and in accordance with all applicable laws and regulations, all advertising, promotional and informational materials concerning the Licensed Tests in the Territory with either the words "Patent Pending," or with the numbers of the Licensed Patent Rights, as applicable, and identifying Rosetta, and as may be required by any Upstream License Agreement, the applicable Upstream Licensor, as the licensor of such Licensed Patent Rights, using the Rosetta logo in the form supplied by Rosetta for such purpose, in conformance with applicable patent laws in the Territory. Rosetta hereby grants to Avatao an exclusive license during, the Term to use the Rosetta name and logo solely in connection with the advertisement, promotion and sale of Licensed Tests within the Territory as set forth in this Section 3.5 and to sublicense such rights solely to its Affiliates. Avatao and its Affiliates shall not alter the Rosetta logo without Rosetta's prior written consent. Rosetta shall have the right to review all labels, packaging, printed materials and electronic materials bearing its name and/or logo for compliance with Rosetta's standard trademark guidelines prior to the first distribution or public dissemination or display of such items, and Avatao shall correct any non-compliance identified by Rosetta prior to distributing such items. Avatao and its Affiliates shall not register or seek to register any trademark, service mark, business name, domain name or other business insignia in any country that is identical or confusingly similar to Rosetta's name or logo without Rosetta's prior written consent. All goodwill in the Rosetta name and logo shall accrue to Rosetta.

## 4. FINANCIAL CONSIDERATION

4.1 **Initial Payment and Second Licensed Product Fee.** Prior to November 4, 2011, Avatao shall begin wiring non-refundable, non-creditable payments to Rosetta which, in the aggregate, will total [***] dollars ($[***]) (the **"Initial Payment"**), such Initial Payment to be completed prior to November 18, and [***] dollars ($[***]), upon the earlier to occur of (a) the date that is two (2) weeks following Rosetta's completion of the delivery, as reasonably determined jointly by Rosetta and Avatao of the Licensed Technology identified in Exhibit B relating to the First Licensed Products and (b) November 30, 2011. Avatao shall pay Rosetta a non-refundable, non-creditable payment of t[***] dollars ($[***]) in consideration of the rights granted hereunder with respect to the Second Licensed Product (the **"Second Licensed Product Fee"**) no later than September 30, 2012, and a non-refundable, non-creditable payment of [***] dollars ($[***]) upon the earlier to occur of (a) the date following Rosetta's completion of the delivery, as reasonably determined jointly by Rosetta and Avatao, of the Licensed Technology relating to the Second Licensed Products and (b) November 30, 2012.

4.2 **Milestone Payments.** Avatao shall pay Rosetta each of the non-refundable, non-creditable payments set forth below (each, a **"Milestone Payment"**) within ten (10) business days after occurrence of the following events:

| **Milestone Event** | **Payment** |
|---|---|
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |
| [***] | [***] |

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

4.3 **Royalties.** Subject to the other terms of this Agreement, commencing on the date of the First Commercial Sale of each Licensed Test in the Territory, Avatao shall pay to Rosetta a royalty of [***] percent ([***]%) of Net Sales of such Licensed Test sold by Avatao or its Affiliates. Royalties will be payable until the later of (X) expiration of the last Valid Claim in the Territory, or (y) fifteen (15) years after First Commercial Sale in the Territory (the **"Royalty Terra"**).

4.3.1 **Royalty Stacking.** If, at any time after the Effective Date, Avatao discovers that any Licensed Test or the use thereof in the Field or the practice of any Licensed Technology solely as permitted hereunder infringes claims of an unexpired patent or patents other than those in the Licensed Patent Rights, Avatao may, if it has not already done so, negotiate with the owner of such patents for a license on such terms as Avatao deems appropriate. Should the license with the owner of such patents require the payment of royalties or other consideration to such owner then the royalties otherwise payable under this Agreement shall he reduced by [***] percent ([***]%) of the dollar amount of the royalties or consideration paid to the owners of such patents, provided, however, that the royalty payable by Avatao to Rosetta hereunder shall not be lower than one and [***] percent ([***]%). Notwithstanding anything herein, no deduction whatsoever shall be permitted with respect to any royalty or other amount payable by Avatao with respect to any Commercial Technology Platform (not including, for purposes of this section only, MGB Probes and Real-Time PCR Technology) used by Avatao to perform the Licensed Tests,

4.3.2 **Blended Royalty Rate.** Avatao acknowledges and agrees that royalties may become payable hereunder for a Licensed Test for which there are no Licensed Patent Rights and that such royalties are in consideration of each of the following, separately and together, which have substantial economic benefit to Avatao: (i) Rosetta's expertise and know-how relating to Licensed Tests; (ii) Rosetta's research and development activities with respect to Licensed Tests conducted prior to the Effective Date: (iii) the licenses granted to Avatao hereunder with respect to Licensed Technology that is not within the claims of any Licensed Patent Rights; (iv) Rosetta's development of international recognition of Licensed Tests; and (v) the exclusivity and "head staff' in the Licensed Field afforded to Avatao by each of the foregoing. The Parties agree that the royalty rates set forth herein reflect an efficient and reasonable blended allocation of the values provided by Rosetta to Avatao.

4.3.3 **One Royalty.** The obligation to pay royalties pursuant to Section 4.3 is imposed only once regardless of how many Licensed Patent Rights may cover or claim the Licensed Test or whether the practice of the Licensed Test, its manufacture, use, offer for sale, sale, or importation is covered or claimed by more than one Licensed Patent Right.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

4.4 **Payment Terms.**

4.4.1 **Payment.** Unless otherwise expressly provided, Avatao shall make payments of royalties due to Rosetta hereunder in arrears, within [***] ([***]) days from the end of each calendar quarter in which such payment obligation accrues. For purposes of determining when a sale of any Licensed Test occurs under this Agreement, the sale shall be deemed to occur on the date the payment from the purchaser of the Licensed Test is received by Avatao. Each royalty payment shall be accompanied by a report specifying; the gross sales if available) and Net Sales in the applicable currency; the applicable royalty rates under this Agreement; the royalties payable, including an accounting of deductions taken in the calculation of Net Sales; the applicable exchange rate to convert from the currency of the sale to United States dollars under this Section 4, if any; and the royalties payable in United States dollars. If no sales of Licensed Tests were made, the report shall so state.

4.4.2 **Overdue Payments.** Subject to the other terms of this Agreement, any royalty payments not paid within the time period set forth in this Section 4 shall bear interest at a rate of one percent (1%) per month from the due date until paid in full, provided that in no event shall said annual rate exceed the maximum interest rate permitted by law in regard to such payments. Such payment when made shall be accompanied by all interest so accrued. Said interest and the payment and acceptance thereof shall not negate or waive the right of either Party to any other remedy, legal or equitable, to which it may be entitled because of the delinquency of the payment. Any failure to pay any amount due under this Agreement by the date such amount is due shall be deemed to be a material breach of this Agreement.

4.4.3 **Payment Logistics; Exchange Rates.** All payments hereunder shall be in United States dollars and made by wire transfer of immediately available funds to a hank account designated by Rosetta. Conversion of foreign currency to United States dollars shall be made at the conversion rate existing in the United States (as reported in *The Wall Street Journal*) on the last business day of the quarter immediately preceding the applicable calendar quarter. If *The Wall Street Journal* ceases to be published, then the rate of exchange to be used shall be that reported in such other business publication of national circulation in the United States as the Parties reasonably agree.

4.4.4 **Tax Withholding.** All payments hereunder shall be made free and clear of any taxes, duties, levies, fees or charges, except for withholding taxes (to the extent applicable). Avatao shall make any applicable withholding payments due on behalf of Rosetta and shall provide Rosetta with written documentation regarding any such payment as available to Avatao. Avatao shall cooperate with Rosetta with respect to any application by Rosetta for a foreign tax credit for such payment or any application by or on behalf of Rosetta for a reduction of. or relief from, the foreign tax.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

4.4.5 **Currency Embargos.** If by law, regulations or fiscal policy of the Territory or any part thereof, remittance of royalties from sales in such country or sub-jurisdiction is restricted or forbidden, written notice thereof shall promptly be given to Rosetta. and payment of the royalty shall be made by the deposit thereof in local currency to the credit of Rosetta in a recognized banking institution reasonably designated by Rosetta by written notice to Avatao. When any law or regulations of the Territory prohibit both the transmittal and the deposit of royalties on sales in such country, royalty payments shall be suspended far as long as such prohibition is in effect, and as soon as such prohibition ceases to be in effect, all royalties and sublicense revenue payments that Avatao would have been under an obligation to transmit or deposit but for the prohibition shall forthwith be deposited or transmitted, to the extent allowable.

4.5 **Records Retention; Review.**

4.5.1 **Record Keeping.** Commencing as of the date of First Commercial Sale of the first Licensed Test hereunder, Avatao and its Affiliates shall keep for at least live (5) years from the end of the Calendar Year to which they pertain complete and accurate records of (i) sales by Avatao and its Affiliates, as the case may be, of each Licensed Test, and (ii) the achievement of milestones hereunder, in each case in sufficient detail to allow the accuracy of the payments hereunder and achievement of milestones to be confirmed.

4.5.2 **Review.** Subject to the other terms of this Section 4.5, at the request of Rosetta, upon at least thirty (30) days prior written notice, and at its expense (except as otherwise provided herein), Avatao shall permit, and Avatao shall procure that its Affiliates permit, an independent certified public accountant selected by Rosetta to inspect (during regular business hours) the relevant records required to be maintained by Avatao and its Affiliates under Section 4.5.1 (Record Keeping). Rosetta shall treat the results of any such accountant's review of records under this Section 4.5.2 as Confidential Information of Avatao. If any review reveals a deficiency in the calculation and/or payment of royalties or any other payments due hereunder, then (a) Avatao shall promptly pay Rosetta the amount remaining to be paid, and (b) if such underpayment is by [***] percent ([***]%) or more, Avatao shall pay the reasonable out-of-pocket costs and expenses incurred by Rosetta in connection with the review. Avatao may engage, at its sole discretion and cost, an independent certified public accountant to review and verify the results obtained by the independent certified public accountant engaged by Rosetta.

4.6 **Allocation of Initial Payment, Milestone Payment and Royalties.** Avatao acknowledges that the Initial Payment, Milestone Payment and royalty payments are made partly in consideration of the grant of rights, as set forth in Sections 2.1.1, 2.1.2 and 2.1.3, under (i) intellectual property owned by Rosetta, and (ii) intellectual property owned by the individual Upstream Licensors and sublicensed by Rosetta to Avatao hereunder, and partly in consideration of other obligations of Rosetta under this Agreement. In light of the characteristics of the Licensed Tests and the respective intellectual property rights applicable to each of the Licensed Tests, the Parties agree that the consideration represented by the Initial Payment and Milestone Payment is apportioned among the various licenses and sublicenses as follows:

Initial Payment: [***].

Milestone Payment: [***].

Royalty Payments: [***].

## 5. TREATMENT OF CONFIDENTIAL INFORMATION

5.1 **Confidentiality Obligations.** Each Party shall take such action, and shall cause its Affiliates to take such action, to preserve the confidentiality of the other Party's Confidential Information as it would customarily take to preserve the confidentiality of its own Confidential Information, using, in all such circumstances, not less than reasonable care to prevent the Confidential Information of the other Party from being copied, used or disclosed to any Third Party without the other Party's prior written consent except for those Third Parties to whom disclosure or the Confidential Information is permitted pursuant to the terms of this Agreement.

5.2 **Limited Disclosure and Use.** Rosetta and Avatao each agree that any disclosure of the other Party's Confidential Information to any officer, employee, consultant or agent of the other Party or any of its Affiliates shall be made only if and to the extent necessary to carry out its rights and responsibilities under this Agreement, shall be limited to the maximum extent possible consistent with such rights and responsibilities, and shall only be made to the extent any such persons arc bound by written confidentiality obligations to maintain the confidentiality thereof and not to use such Confidential information except as expressly permitted by this Agreement. Rosetta and Avatao each further agree not to use the other Party's Confidential Information except as otherwise expressly permitted by this Agreement and not to disclose or transfer the other Party's Confidential Information to any Third Parties tinder any circumstance without the prior written approval from the other Party, except as otherwise expressly permitted by this Agreement. Each Party may disclose the Confidential Information of the other Party and the existence and terms of this Agreement solely in the following instances:

5.2.1 disclosure to any potential licensees or sublicensees (in the case of Rosetta), investors, prospective investors, lenders and other potential financing sources and Third Parties conducting due diligence in connection with any financing or acquisition transaction who are obligated in writing to keep such information confidential, and who are subject to non-use obligations, under commercially reasonable terms;

5.2.2 in making regulatory filings and obtaining Regulatory Approvals;

5.2.3 in prosecuting or defending litigation, including responding to a subpoena in a Third Party litigation; and

5.2.4 subject to Section 5.5, in complying with applicable laws (including the rules and regulations of the Securities and Exchange Commission or any national securities exchange) and with judicial process, if in the opinion of the Receiving Party's counsel, such disclosure is necessary or advisable for such compliance;

provided that, with respect to disclosures pursuant to Sections 5.2.3 and 5.2.4 above, the Receiving Party shall notify the Disclosing Party of the Receiving Party's intent to make such disclosure pursuant to this Section 5.2 sufficiently prior to making such disclosure so as to allow the Disclosing Party adequate time to take whatever action it may deem appropriate to protect the confidentiality of the information, and the Receiving Party will provide reasonable assistance to the Disclosing Party with respect thereto; provided that, in any event, the Receiving Party will use reasonable measures to ensure confidential treatment of such information,

5.3 **Return of Confidential Information.** Each Party, upon the request of the other Party, will return all the Confidential Information disclosed or transferred to it by the other Party pursuant to this Agreement, including all copies and extracts of documents and all manifestations in whatever form, within sixty (60) days or the termination or expiration of this Agreement; provided, however, that a Party may retain (a) any Confidential Information of the other Party relating to any license which expressly survives such termination and (b) one (1) copy of all other Confidential Information in inactive archives solely for the purpose of establishing the contents thereof.

5.4 **Confidentiality Agreement.** The Confidentiality Agreement is hereby superseded by this Agreement and all Confidential Information (as defined in the Confidentiality Agreement) disclosed thereunder shall be deemed to be Confidential Information hereunder and shall be subject to the terms and conditions of this Agreement.

5.5 **Publicity.** Neither Party may publicly disclose the existence or terms or any other matter or fact regarding this Agreement without the prior written consent of the other Party, which consent shall not be unreasonably withheld or delayed; provided, however, that either Party may make such a disclosure to the extent required by law or by the requirements of any nationally recognized securities exchange, quotation system or over-the-counter market on which such Party has its securities listed or traded. If such disclosure is required or permitted, the disclosing Party shall provide the other Party with notice beforehand and coordinate with the other Party with respect to the wording and timing of any such disclosure, Rosetta shall have the right to issue a press release announcing the existence of this Agreement at Rosetta's discretion. If and when Rosetta determines to issue such a press release, Rosetta shall notify Avatao in writing and shall provide to Avatao a copy of the portion of such press release that relates to this Agreement for Avatao's approval, which shall not be unreasonably withheld, conditioned or delayed, Avatao shall have the right to issue a press release concerning this Agreement, in a form approved by Rosetta, which approval shall not be unreasonably withheld, conditioned or delayed, provided that the issuance of such press release shall not occur prior to the issuance of the Rosetta press release contemplated in the preceding sentence. Once any press release or any other written statement is approved for disclosure by both Parties, either Party may make subsequent public disclosure of the contents of such statement without the further approval of the other Party.

5.6 **Use of Names.** Neither Party shall employ or use the name of the other Party or the other Party's licensors (including, with respect to Avatao's use, the Upstream Licensors) or Affiliates in any promotional materials or advertising without the prior express written permission of the other Party, except as otherwise expressly permitted or required elsewhere in this Agreement.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

5.7 **Upstream License Agreements.** Notwithstanding anything to the contrary in this Agreement, Rosetta may disclose the terms of this Agreement and Avatao Confidential Information to the Upstream Licensors as reasonably necessary to fulfill Rosetta's obligations under each applicable Upstream License Agreement,

## 6. PATENT MANAGEMENT AND ENFORCEMENT

### 6.1 Prosecution.

6.1.1 **Licensed Patent Rights other than Product Patents.** As between the Parties, Rosetta shall have the sole right, but not the obligation, to prepare, file, prosecute, obtain and maintain all Licensed Patent Rights other than the Product Patents. Rosetta shall keep Avatao reasonably informed with respect to such prosecution and maintenance in the Territory, including by providing to Avatao advance copies of draft applications and responses to office actions in the Territory. Rosetta shall reasonably consider Avatao's comments on such applications and responses. Avatao shall use reasonable efforts to pursue the required work in China to best obtain and maintain the patents and IP rights in greater China for licensed products. Rosetta's legal team will provide adequate support to help Avatao's work for IP and patent application in China and reimburse to Rosetta one hundred percent (100%) of the costs of prosecuting and maintaining the Product Patents in the Territory. Such reimbursements shall be due to Rosetta within thirty (30) days after Rosetta provides an invoice to Avatao for the applicable costs.

6.1.2 **Product Patents.** As. between the Parties, Avatao shall have the sole right, but not the obligation, to prepare, file, prosecute, obtain and maintain the Product Patents in the Territory. Avatao shall keep Rosetta reasonably informed with respect to such prosecution and maintenance, including by providing to Rosetta advance copies of draft applications and responses to office actions. Avatao shall reasonably consider Rosetta's comments on such applications and responses. Avatao shall notify Rosetta at least sixty (60) days in advance of any applicable response or payment deadline if Avatao has decided not to continue the prosecution or maintenance of any of the Product Patent. Rosetta shall have the right to assume the prosecution or maintenance of any such Product Patents and Avatao shall provide copies of all prosecution files relating thereto to Rosetta and execute all documents reasonably requested by Rosetta to enable Rosetta to assume such prosecution and maintenance. Rosetta's employees and consultants will use reasonable efforts to provide adequate support providing the necessary materials and documents so as to facilitate Avatao to obtain and maintain the Product Patents in the Territory.

6.2 **Infringement.** As between the Parties, Rosetta shall have the sole right, but not the obligation, to enforce all Licensed Patent Rights, and to enforce any rights in the Licensed Technology, against Third Parties, Avatao shall promptly notify Rosetta of any suspected infringement of any Licensed Patent Rights by a Third Party by the sale, offer for sale, use or importation a product or performance of a service in the Licensed Field, and provide any evidence thereof in Avatao's possession. Rosetta will discuss with Avatao in good faith in a timely manner any appropriate response to such infringement. Avatao will provide reasonable assistance and cooperation to Rosetta in any action that Rosetta may determine to take with respect to such infringement.

6.3 **License to Improvements.** If Avatao or any of its Affiliates makes any invention or acquires any intellectual property rights that Cover a Licensed Test or otherwise comprise an Improvement. Avatao shall provide written notice to Rosetta describing the invention or other intellectual property right in sufficient detail to enable its implementation by Rosetta. Avatao hereby grants to Rosetta and Rosetta's Affiliates a non-exclusive, royalty-free, fully paid-up, worldwide, sublicensable, perpetual license to make, use, sell, offer for sale, import and otherwise exploit any Improvements owned or Controlled by Avatao (i) outside the Territory during the Term, and (ii) anywhere in the world after the termination or expiration of this Agreement.

## 7. REPRESENTATIONS AND WARRANTIES

7.1 **Rosetta Representations.** Rosetta represents and warrants to Avatao that, as of the effective date:

7.1.1 the execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate Rosetta corporate action and will not require the consent or approval of Rosetta's stockholders;

7.1.2 this Agreement is a legal and valid obligation binding upon Rosetta and enforceable in accordance with its terms, except as such enforcement may be limited by applicable bankruptcy, moratorium and other laws affecting creditors' rights generally; and the execution, delivery and performance of this Agreement by Rosetta does not conflict with any agreement, instrument or understanding to which Rosetta is a party or by which it is bound;

7.1.3 Rosetta has the full right and legal capacity to grant the rights granted to Avatao hereunder without violating the rights of any Third Party; and

7.1.4 no Third Party has filed a lawsuit alleging that any of the Licensed Tests infringe such Third Party's intellectual property rights and Rosetta has not received written notice of any such alleged infringement,

7.2 **Avatao Representations.** Avatao represents and warrants to Rosetta that, as of the Effective Date:

7.2.1 the execution and delivery of this Agreement and the performance of the transactions contemplated hereby have been duly authorized by all appropriate Avatao corporate action and will not require the consent or approval of Avatao's stockholders;

7.2.2 this Agreement is a legal and valid obligation binding upon Avatao and enforceable in accordance with its terms, except as such enforcement may be limited by applicable bankruptcy, moratorium and other laws affecting creditors' rights generally; and the execution, delivery and performance of this Agreement by Avatao does not conflict with any agreement, instrument or understanding to which Avatao is a party of or by which it is bound; and

7.2.3 no consent, approval, order or authorization of, or registration, qualification. designation, declaration or filing with, any national, provincial, territorial, state or local governmental authority, or any Third Party is required in connection with the execution, delivery and performance of this Agreement.

7.3 **No Warranties; Disclaimer.** Nothing in this Agreement is or shall be construed as a warranty or representation by Rosetta or Avatao: (i) as to the validity or scope of any patent application or patent licensed hereunder; (ii) that anything made, used, sold or otherwise disposed of under any license granted pursuant to this Agreement is or will be free from infringement of patents, copyrights, and other rights of third parties; or (iii) that any information, trade secrets or Technology provided by Rosetta to Avatao under any license granted pursuant to this Agreement, or that any assistance provided by Rosetta to Avatao under this Agreement, is sufficient to develop or manufacture any Licensed Test or to practice the Licensed Patent Rights granted hereunder. Rosetta and each of the Upstream Licensors disclaim any warranty or representation regarding (a) an obligation to bring or prosecute actions or suits against Third Parties for infringement; or (b) any obligation to furnish any technology or technological information, or provide Avatao any technical assistance, except for Rosetta's obligations pursuant to Section 2.3 (Technology Transfer) and Rosetta's obligations to grant the licenses herein, Except as expressly set forth in this Agreement, Avatao acknowledges that all Licensed Technology and any assistance provided to Avatao are provided by Rosetta on an "as is" basis. EXCEPT AS EXPRESSLY SET FORTH IN THIS AGREEMENT, NEITHER PARTY MAKES ANY REPRESENTATION OR EXTENDS ANY WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED. THERE ARE NO EXPRESS OR IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, OR OF NON-INFRINGEMENT OF ANY PATENT, COPYRIGHT, TRADEMARK, OR OTHER RIGHTS OF THIRD PARTIES, OR ANY OTHER EXPRESS OR IMPLIED WARRANTIES.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

## 8. INDEMNIFICATION

8.1 **Indemnification.** Avatao shall indemnify, defend and hold harmless Rosetta, its Affiliates, each of the Upstream Licensors, and their respective directors. officers, employees, stockholders and agents, and each of their respective successors, heirs and assigns the **"Rosetta Indemnitees"**) from and against any liability, damage, loss or expense (including reasonable attorneys' fees and expenses of litigation) (collectively, **"Losses"**) incurred by or imposed upon such Rosetta Indemnities, or any of them, in connection with any Third Party claims, suits, actions, demands or judgments, including government investigations or other actions, personal injury and product liability matters (but excluding any patent infringement matters), to the extent arising out of (a) the development, testing, production, manufacture, supply, promotion, labeling, importation, performance, sale or use by any person of any Licensed Test (or any component thereof) manufactured, sold or performed by Avatao or any Affiliate, (b) breach of this Agreement by Avatao or, to the extent applicable, its Affiliates, or (c) gross negligence or willful misconduct on the part of Avatao or any of its Affiliates or customers, except to the extent that such Losses are attributable to the breach by Rosetta of any of its representations, warranties or covenants set forth in this Agreement or the gross negligence or willful misconduct of a Rosetta Indemnitee.

8.2 **Indemnification Procedures.** If any Rosetta Indemnitee is seeking indemnification under this Article 8, the Rosetta Indemnitee shall notify Avatao of such claim as soon as reasonably practicable after the Rosetta Indemnitee receives notice of the claim, and the Rosetta Indemnitee shall permit Avatao to assume direction and control of the defense of the claim (including the right to settle the claim solely for monetary consideration) and shall cooperate as reasonably requested (at the expense of Avatao) in the defense of the claim. The indemnification obligations under Article 8 shall not apply to any harm suffered as a direct result of any delay in notice to Avatao hereunder or to amounts paid in settlement of any claim, demand, action or other proceeding if such settlement is effected without the consent of Avatao, which consent shall not be withheld or delayed unreasonably. The Rosetta Indemnitee, as applicable, and its employees and agents, shall reasonably cooperate with Avatao and its legal representatives in the investigation of any claim, demand, action or other proceeding covered by Article 7.

## 9. TERM AND TERMINATION

9.1 **Term; Expiration.** This Agreement shall commence as of the Effective Date and, unless terminated early in accordance with this Article 9, shall continue in full force and effect, on a Licensed Test-by-Licensed Test basis until the expiration of the Royalty Term for such Licensed Test.

9.2 **Termination Rights for Breach.** This Agreement may be terminated by either Party upon any material breach by the other Party of this Agreement, effective thirty (30) days after giving written notice to the breaching Party of such termination in the case of a payment breach and sixty (60) days after giving written notice to the breaching Party of such termination in the case of any other breach, which notice shall describe such breach in reasonable detail. Without limiting the generality of the foregoing, any breach by Avatao of Section 3.1 (Diligence) or 3.2 (Updates and Reports) and any payment breach shall be a material breach hereunder. The foregoing notwithstanding, if such default or breach is cured or remedied or shown to be non-existent within the aforesaid thirty (30) or sixty (60) day periods, the notice shall be automatically withdrawn and of no effect.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

9.3 **Termination for Failure to Achieve a Diligence Milestone.** Rosetta may terminate this Agreement, in whole or with respect to one or more Licensed Tests only, at Rosetta's discretion, if Avatao fails to achieve any of the Diligence Milestones by the date specified for the achievement of such Diligence Milestone in Section 3.1.2.

9.4 **Voluntary Termination.** Avatao may terminate this Agreement at any time after the first anniversary of the First Commercial Sale of a Licensed Test in the Territory upon ninety (90) days' written notice to Rosetta, for any or no reason.

9.5 **Termination for Financial Insecurity.** If either Party files for protection under bankruptcy laws, makes an assignment for the benefit of creditors, appoints or suffers appointment of a receiver or trustee over its property, files a petition under any bankruptcy or insolvency act or has any such petition filed against it which is not discharged within sixty (60) days of the tiling thereof, then the other Party may terminate this Agreement effective immediately upon written notice to such Party.

9.6 **Currency Embargo.** Rosetta shall have the right to terminate this Agreement by written notice to Avatao if any complete or partial currency embargo as contemplated in Section 4.4.5 persists in the Territory for a period of three hundred and sixty-five (365) days or any longer period and affects fifty percent (50%) or more of the amounts due to Rosetta during such period.

9.7 **Termination for Challenges to Licensed Patent Rights.** This Agreement, and all licenses granted to Avatao hereunder, may be terminated by Rosetta on thirty (30) days prior written notice for with respect to any Upstream Licensed Patent, any shorter period to the extent required under its Upstream License Agreements) in the event that Avatao or an Avatao Affiliate directly or indirectly opposes, disputes or assists any Third Party to oppose or dispute, the validity or enforceability of any of the Licensed Patent Rights in a court of competent jurisdiction or in proceedings before the United States Patent and Trademark Office or any other national patent office or supra-national patent authority established pursuant to international treaty, including under the auspices of the European Union. Notwithstanding the foregoing, Rosetta shall not have the right to terminate this Agreement for any such instance in which Avatao or an Avatao Affiliate is required to participate in an opposition pursuant to a subpoena or court order or a proceeding is otherwise initiated by the United States Patent and Trademark office or other patent office or authority other than at the instigation of Avatao or an Avatao Affiliate.

9.8 **Effects of Expiration or Termination.**

9.8.1 Upon any expiration of this Agreement pursuant to Section 9.1, the licenses granted to Avatao pursuant to Sections 2.1.1 and 2.1.2 (and in the case of miRview® mets and miRview® mets$^2$, Section 2.1.3) shall continue and shall become royalty-free in the Territory on a Licensed Test-by-Licensed Test basis.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

9.8.2 Upon any termination of this Agreement by Rosetta pursuant to Section 9.2, 9.3, 9.5, or by Avatao pursuant to Section 9.2, 9.4 or 9.5, all licenses granted by Rosetta to Avatao shall terminate automatically and, in addition to complying with Section 5.3 (Return of Confidential Information) Avatao shall, promptly transfer to Rosetta or its designee all (i) Regulatory Approvals for Licensed Tests in the Territory, to the extent such transfer is permitted by applicable law, and (ii) a complete copy of all Technology used by Avatao to perform the Licensed Tests as of the date of termination, Avatao hereby grants to Rosetta and its Affiliates, effective upon such termination, a perpetual, royalty-free, fully paid up, non-exclusive, sublicensable, worldwide license under all such Technology and other intellectual property rights of Avatao and its Affiliates to make, use, sell, offer for sale, import and otherwise exploit the terminated Licensed Tests.

9.9 **Remedies.** Except as otherwise expressly set forth in this Agreement, the termination provisions of this Article 9 are in addition to any other relief and remedies available to either Party at law or in equity.

9.10 **Surviving Provisions.** Notwithstanding any provision herein to the contrary, the rights and obligations of the Parties set forth in Articles 4 (Financial Consideration), 5 (Treatment of Confidential Information), 8 (Indemnification), 9 (Term and Termination), 10 (Disputes), and 11 (Miscellaneous} and Sections 2,5 (Reservation of Rights), 2.6 (Third Party Beneficiaries), 2.7 (Compliance with Upstream License Agreements), 3.4 (Compliance with Laws), 6.1 (Prosecution), 6.3 (License to Improvements), and 7.3 (No Warranties; Disclaimer), as well as any rights or obligations otherwise accrued hereunder (including any accrued payment obligations), shall survive the expiration or termination of the Term. For clarity, Avatao shall have no obligation to make any milestone or royalty payment to Rosetta that has not accrued prior to the effective date of any termination of this Agreement, but shall remain liable for all such payment obligations accruing prior to the effective date of such termination.

## 10. DISPUTES

10.1 **Negotiation.** The Parties recognize that a bona fide dispute as to certain matters may from time to time arise during the Term that relates to either Party's rights and/or obligations hereunder. In the event of the Occurrence of such a dispute, either Party may, by written notice to the other Party, have such dispute referred to their respective senior officials designated below or their successors or designees, for attempted resolution by good faith negotiations within sixty (60) days after such notice is received. Said designated senior officials are as follows:

For Avatao: Chief Executive Off

For Rosetta: Chief Executive Off

In the event the designated senior officials are not able to resolve such dispute within the sixty (60) day period, either Party may invoke the provisions of Section 10.2.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

10.2 **Arbitration.** Subject to Section 10.4 any dispute, controversy or claim initiated by either Party arising out of, resulting from or relating to this Agreement, or the performance by either Party of its obligations under this Agreement (other than bona fide Third Party actions or proceedings filed or instituted in an action or proceeding by a Third Party against a Party), whether before or after termination of this Agreement, shall be finally resolved by binding arbitration. Whenever a Party shall decide; to institute arbitration proceedings, it shall give written notice to that effect to the other Party. Such arbitration shall be conducted by the International Chamber of Commerce in accordance with Rules of the International Chamber of Commerce. The arbitration shall be held in the English language in New York. In any such arbitration, Avatao shall select one (1) arbitrator and Rosetta shall select one (1) arbitrator, who in each case, shall have substantial expertise in the human diagnostics industry and shall be fluent in English. The arbitrators selected by the Parties shall select a third arbitrator to act as Chairman, who shall be an experienced lawyer or judge (or retired lawyer or judge) and fluent in English. Judgment upon the award so rendered may be entered. in any court having jurisdiction or application may be made to such court for judicial acceptance of any award and an order of enforcement, as the case may be. In no event shall a demand for arbitration be made after the date when institution of a legal or equitable Proceeding based upon such claim, dispute or other matter in question would be barred by the applicable statute of limitations. Notwithstanding the foregoing, either Party shall have the right, without waiving any right or remedy available to such Party under this Agreement or otherwise, to seek and obtain from any court of competent jurisdiction any interim or provisional relief that is necessary or desirable to protect the rights or property of such Party, pending the selection of the arbitrators hereunder or pending the arbitrators' determination of any dispute, controversy or claim hereunder.

## 11. MISCELLANEOUS

11.1 **Exclusion and Limitation of Damages.** EXCEPT FOR LIABILITY TO A THIRD PARTY UNDER ARTICLE 8, TO THE MAXIMUM EXTENT PERMITTED BY APPLICABLE LAW, NEITHER PARTY NOR ITS LICENSORS NOR ITS AFFILIATES SHALL BE LIABLE TO THE OTHER FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL OR INDIRECT DAMAGES ARISING OUT OF THIS AGREEMENT, HOWEVER CAUSED, UNDER ANY THEORY OF LIABILITY.

11.2 **Insurance.** Avatao shall at all times comply, through insurance written by reputable and financially secure insurance carriers, with all statutory workers' compensation and employers' liability requirements covering any and all employees with respect to activities performed by it or its Affiliates pursuant to this Agreement, and covering Avatao's indemnification obligations in Article 8. In addition to the foregoing, Avatao shall maintain, during the Term, insurance with reputable and financially secure insurance carrier(s) adequate to cover the activities of Avatao and its Affiliates. Such insurance shall be written by.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

11.3 **Notification.** All notices, requests and other communications hereunder shall be in writing, shall he addressed to the receiving Party's address set forth below or to such other address as a Party may designate by notice hereunder, and shall be either (i) delivered by hand, (ii) made by facsimile transmission to he followed with written fax confirmation), (iii) sent by private courier service providing evidence of receipt, or (iv) sent by registered or certified mail, return receipt requested, postage prepaid. The addresses and other contact information for the Parties are as follows:

If to Rosetta:

Rosetta Genomics Ltd,
10 Plaut St.
Rehovot
Israel, 76706
Attn: CEO
Facsimile: +972.73.222.0701

With a copy (which shall not constitute notice) to:

Office of General Counsel
10 Plaut St.
Rehovot
Israel, 76706
Attn: Tami Fishman Jutkowitz

And a second copy (which shall not constitute notice) to:

Mintz Levin PC
One Financial Center
Boston, MA 02111
USA
Attn: Jeff Wiesen

If to Avatao:

Dr. Joanne Jiang
209 Chenfeng Rd
Yushanzhen, Kunshan,
Jiangsu Province, P.R. China 215300

All notices, requests and other communications hereunder shall be deemed to have been given either (i) if by handy at the time of the delivery thereof to the receiving Party at the address of such Party set forth above, (ii) if made by telecopy or facsimile transmission, at the time that receipt thereof has been confirmed by electronic answerback, (iii) if sent by private courier, on the day such notice is delivered to the recipient, or (iv) if sent by registered or certified mail, on the fifth (5th) business day following the day Such mailing is made.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

11.4 **Attorneys Fees.** Each Party shall bear its attorneys fees and costs incurred in connection with the preparation and negotiation of this Agreement and related agreements for this transaction.

11.5 **Language.** This Agreement has been prepared in the English language and the English language shall control its interpretation. Any translation of this Agreement into a language other than English is for convenience only and shall not affect the interpretation of this Agreement.

11.6 **Governing Law.** This Agreement will be construed, interpreted and applied in accordance with the laws of the State of New York, USA (excluding its body of law controlling conflicts of law).

11.7 **Entire Agreement.** This Agreement constitutes the entire agreement between the Parties with respect to the subject matter hereof and supersedes all prior representations, understandings and agreements between the Parties with respect to the subject matter hereof. No modification shall be effective unless in writing with specific reference to this Agreement and signed by the Parties.

11.8 **Waiver.** The terms or conditions of this Agreement may be waived only by a written instrument executed by the Party waiving compliance. The failure of either Party at any time or times to require performance of any provision hereof shall in no manner affect its rights at a later time to enforce the same. No waiver by either Party of any condition or term shall be deemed as a continuing waiver of such condition or term or of another condition or term.

11.9 **Headings.** Article, section and subsection headings are inserted for convenience of reference only and do not form part of this Agreement.

11.10 **Assignment.** Neither this Agreement nor any right or obligation hereunder may he assigned, in whole or part, by either party hereto without the prior express written consent of the other party; provided, however, that either: arty may, without the written consent of the other party, assign this Agreement in connection with the transfer or sale of all or substantially all of such party's assets or business, or in the event of its merger, consolidation or similar transaction, or purchase of all of such party's shares. Any such permitted assignee shall assume in writing all assigned obligations of its assignor under this Agreement. Any purported assignment in violation of this Section shall be void. The terms and conditions of this Agreement shall be binding upon and inure to the benefit of the permitted successors and assigns of the Parties.

11.11 **Force Majeure.** Except with respect to the obligation of making payments, neither Party shall be liable for failure of or delay in performing obligations set forth in this Agreement, and neither shall be deemed in breach of its obligations, if such failure or delay is due to natural disasters or any causes beyond the reasonable control of such Party. In event of such force majeure, the Party affected thereby shall use reasonable efforts to cure or overcome the same and resume performance of its obligations hereunder.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

11.12 **Construction.** The Parties hereto acknowledge and agree that: (I) each Party and its counsel reviewed and negotiated the terms and provisions of this Agreement and have contributed to its revision; (ii) the rule of construction to the effect that any ambiguities are resolved against the drafting Party shall not be employed in the interpretation of this Agreement; and (iii) the terms and provisions of this Agreement shall be construed fairly as to all Parties hereto and not in favor of or against any Party, regardless of which Party was generally responsible for the preparation of this Agreement. As used in this Agreement, the words "include," "including" and their variants and the phrases such as," "for example" and the like are to be construed as if followed by the words "without limitation." As used in this Agreement, the word "dollars" and the symbol "$" refers to United States dollars.

11.13 **Severability.** If any provision(s) of this Agreement are or become invalid, are ruled illegal by any court of competent jurisdiction or are deemed unenforceable under then-current applicable law from time to time in effect during the Term hereof, it is the intention of the Parties that the remainder of this Agreement shall not be affected thereby provided that a Party's rights under this Agreement are not materially affected. The Parties hereto covenant and agree to renegotiate any such term, covenant or application thereof in good faith in order to provide a reasonably acceptable alternative to the term, covenant or condition of this Agreement or the application thereof that is invalid, illegal or unenforceable, it being the intent of the Parties that the basic purposes of this Agreement are to be effectuated.

11.14 **Status.** Nothing in this Agreement is intended or shall be deemed to constitute a partner, agency, employer-employee, or joint venture relationship between the Parties.

11.15 **Export Compliance; FCPA; Anti-Boycott Laws.** Avatao shall comply, and shall require that its Affiliates comply with all Israeli and United States laws and regulations controlling the export of certain commodities and technical data including all Export Administration Regulations of the United States Department of Commerce. Among other things, these laws and regulations prohibit or require la license for the export or re-export of certain types of commodities and technical data to specified countries. Avatao and its Affiliates shall not take any action in furtherance of an unlawful order, promise, or payment to a public official, in violation of any anti-boycott laws or the US Foreign Corrupt Practices Act (FCPA), nor take any action that would cause Rosetta or its Affiliates to be in violation of such laws, Avatao) hereby gives written assurance that it will comply with, and will cause its Affiliates to comply with, all laws and regulations applicable to the manufacture, promotion, marketing, performance, use, sale, exporting and importing of the Licensed Tests, that it bears sole responsibility for any violation of such laws and regulations by itself or its Affiliates, and that it will indemnify, defend, and hold Rosetta harmless (in accordance with Article 8) for the consequences of any such violation.

11.16 **Further Assurances.** Each Party agrees to execute, acknowledge and deliver such further instructions, and to do all such other acts, as may be necessary or appropriate in order to carry out the purposes and intent of this Agreement.

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

11.17 **Counterparts.** This Agreement may be executed simultaneously in one or more counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same instrument.

**[Remainder of page intentionally left blank]**

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representative in two (2) originals.

| **Avatao Biotech** | | **Rosetta Genomics, Ltd.** | |
|---|---|---|---|
| By: | */s/ Joanne Jiang* | By: | */s/ K.A. Berlin* |
| Name: | Joanne Jiang | Name: | K.A. Berlin |
| Title: | CEO, Chairman | Title: | President and CEO |

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**Exhibit A**

**Licensed Patent Rights**

**PLATFORM PATENTS:**

| | Application | Assignee | Publication No. |
|---|---|---|---|
| **1** | MicroRNAs and Uses thereof | Rosetta Genomics | CN 101031657 |
| **2** | MicroRNA and Methods for Inhibiting Same | Rockefeller University | CN 101031579 |
| **3** | Human MicroRNAs and Methods for Inhibiting same | Rockefeller University | CN 101535331 |

**PRODUCT PATENTS (anticipated to be filed in China as of the Effective Date):**

| | Application | Assignee | Publication No. |
|---|---|---|---|
| **1** | [***] | Rosetta Genomics | [***] |
| **2** | [***] | Rosetta Genomics | [***] |

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

CONFIDENTIAL

**Exhibit B**

**Initial Technology Transfer**

1. miRview™ mets:

[***]

2. miRview™ mets$^2$:

[***]

3. Training

[***]

Portions of this Exhibit, indicated by the mark "[***]," were omitted and have been filed separately with the Securities and Exchange Commission pursuant to the Registrant's application requesting confidential treatment pursuant to Rule 24b-2 of the Securities Exchange Act of 1934, as amended.

**Exhibit 8.1**

**SUBSIDIARIES**

| **Subsidiary** | **Jurisdiction** |
| --- | --- |
| Rosetta Genomics Inc. | Delaware |

**Exhibit 12.1**

**CERTIFICATIONS**

I, Kenneth A. Berlin, certify that:

1. I have reviewed this Annual Report on Form 20-F of Rosetta Genomics Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: April 2, 2012

/s/ Kenneth A. Berlin

Kenneth A. Berlin
*Chief Executive Officer and President*
*(principal executive officer)*

**Exhibit 12.2**

**CERTIFICATIONS**

I, Tomer Assis, certify that:

1. I have reviewed this Annual Report on Form 20-F of Rosetta Genomics Ltd.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer(s) and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a-15(f) and 15d-15(f)) for the registrant and have:

   a) designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   b) designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   c) evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   d) disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   a) all significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Dated: April 2, 2012

/s/ Tomer Assis

Tomer Assis
*Interim Chief Financial Officer*
*(principal accounting and financial officer)*

**Exhibit 13.1**

**CERTIFICATIONS UNDER SECTION 906**

Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002 (subsections (a) and (b) of section 1350, chapter 63 of title 18, United States Code), each of the undersigned officers of Rosetta Genomics Ltd., an Israeli corporation (the "Company"), does hereby certify, to such officer's knowledge, that:

The Annual Report on Form 20-F for the year ended December 31, 2011 (the "Form 20-F") of the Company fully complies with the requirements of Section 13(a) or 15(d) of the Securities Exchange Act of 1934, and the information contained in the Form 20-F fairly presents, in all material respects, the financial condition and results of operations of the Company.

Dated: April 2, 2012

/s/ Kenneth A. Berlin

Kenneth A. Berlin
*Chief Executive Officer and President*
*(principal executive officer)*

Dated: April 2, 2012

/s/ Tomer Assis

Tomer Assis
*Interim Chief Financial Officer*
*(principal accounting and financial officer)*

A signed original of this written statement required by Section 906 has been provided to the Company and will be retained by the Company and furnished to the Securities and Exchange Commission or its staff upon request.

**Exhibit 15.1**

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in the Registration Statements on Form F-3 (Nos. 333-159955, 333-163063, 333-171203, 333-172655 and 333-177670) and the related prospectuses and Form S-8 (Nos. 333-141525, 333-147805 and 333-165722) of Rosetta Genomics Ltd. of our report dated April 2, 2012 with respect to the consolidated financial statements of Rosetta Genomics Ltd. and its subsidiaries, included in this Annual Report (Form 20-F) for the year ended December 31, 2011.

Tel-Aviv, Israel
April 2, 2012

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