



Rosetta Genomics Reports Fourth Quarter and Full Year 2009 Financial Results

*Business Update Conference Call Scheduled for Wednesday, April 7th at 10:00 a.m.
Eastern Time*

PHILADELPHIA and REHOVOT, Israel (March 31, 2010) – Rosetta Genomics, Ltd. (NASDAQ: ROSG), a leading developer of microRNA-based molecular diagnostics, today reported that on March 26, 2010 the Company filed its Form 20-F with the U.S. Securities and Exchange Committee, which contains financial results for the three and 12 months ended December 31, 2009. Highlights of the fourth quarter of 2009 and subsequent weeks include:

- The Company strengthened its balance sheet with the successful completion of a registered direct offering in January 2010 of 2,530,000 ordinary shares and warrants to purchase 1,265,000 ordinary shares at an exercise price of \$2.50 per share, with net proceeds to the Company of approximately \$4.65 million.
- The Company's patent estate was fortified with the issuance of four additional U.S. patents covering composition of matter of human microRNAs, and the allowance of claims of two additional U.S. patent applications.
- Data were published by Johns Hopkins University researchers in "*Clinical Cancer Research*" demonstrating miRview™ squamous is a highly reliable tool for subclassifying non-small cell lung cancer (NSCLC) with 100% sensitivity and specificity. The study showed miRview™ squamous exceeds current "gold standard" methods and is able to accurately subclassify NSCLC regardless of the tumor grade. miRview™ squamous also correctly classified 95% of fine-needle aspirate specimens originally diagnosed as poorly differentiated NSCLC into squamous and non-squamous cell carcinoma.
- Data were published from a joint study by NYU Langone Medical Center and Rosetta Genomics in "*Cancer Research*" that showed a single microRNA biomarker could be used for the prognosis of mesothelioma patients. The data demonstrated the potential of miR-29c* to act as an independent prognostic factor for time to progression as well as survival after surgery. It also showed the ability to forecast outcomes for malignant pleural mesothelioma, which may enable clinicians to provide aggressive therapy to the most appropriate patients.
- The Company expanded and enhanced its board of directors with the additions of Kenneth A. Berlin, the Company's President and CEO, and David Sidransky, M.D., a director of the Head and Neck Cancer Research Division at Johns Hopkins University School of Medicine and a Professor of Oncology, Otolaryngology, Cellular & Molecular Medicine, Urology, Genetics and Pathology at Johns Hopkins University and Hospital.

Management Commentary

“During the fourth quarter of 2009, Prometheus Laboratories, which has exclusive rights to our first three miRview assays in the U.S, began the initial launch for these three microRNA-based diagnostic tests under the ProOnc™ brand. These efforts largely consisted of providing and processing samples, creating and developing the branding, and hiring and training the first phase of sales representatives. We expect these efforts will translate into increasing sales of these three tests over time as Prometheus builds brand awareness and continues to expand its sales force in the U.S.,” said Mr. Berlin.

“We remain enthusiastic about our product pipeline and are currently advancing five tests through the development process. Our second-generation miRview™ mets test, with more than 40 tumors in its expanded tumor panel, is being developed to significantly increase our ability to identify the primary origin of metastases. We are on track to complete validation and launch this test in the second half of this year.”

“Rosetta Genomics and our collaborators continue to generate and publish data that further demonstrate the potential microRNAs hold as effective biomarkers, validate the strength of our microRNA platform technologies, and demonstrate our ability to harness the power of microRNA to advance the standard of care in diagnosing and treating cancer and other disease areas. Importantly, we also continue to build our microRNA patent estate, which we believe is the broadest and most significant of any company working in this area. Our broad and deep intellectual property estate further enhances our leadership position in the area of microRNA-based diagnostics,” he added.

“In order to tailor therapies in a more precise manner—the essence of personalized medicine—there is a clear need to determine at the molecular level what makes one group of patients who respond to a specific therapy different from those who do not. The search for response biomarkers that can separate responders from non-responders continues in earnest as these biomarkers have the potential to increase the efficiency and effectiveness of drug development. We expect to leverage our microRNA platform technologies to expand into additional areas such as response biomarkers and companion diagnostics, where our proven technologies can be deployed to enhance patient selection for clinical trials and to determine which patients stand to benefit from therapeutics. In addition to building shareholder value, we believe that the introduction of our products and technologies into this arena has the potential to significantly enhance patient care and outcomes,” concluded Mr. Berlin.

Fourth Quarter Results

The Company recorded \$119,000 and \$0 as revenues in the fourth quarters of 2009 and 2008, respectively.

Research and development expenses were \$1.7 million for the fourth quarter of 2009, compared with \$2.1 million for the fourth quarter of 2008. R&D expenses decreased due to lower costs related to salaries as a result of a decrease in headcount, and in 2008 research and development efforts were more focused on the three new products.

Marketing and business development expenses were \$1.3 million for the fourth quarter of 2009, compared with \$713,000 for the fourth quarter of 2008. The increase was due primarily to an increase in expenses related to salaries.

General and administrative expenses were \$1.2 million in the fourth quarter of 2009, compared with \$773,000 in the fourth quarter of 2008. This increase resulted primarily from costs associated with expenses related to salaries, an increase in legal fees, and expenses related to the filing of a registration statement.

The operating loss for the fourth quarter of 2009 was \$4.1 million, including \$615,000 of non-cash stock based compensation expense, which includes \$133,000 in stock based compensation of shares granted. This compares with an operating loss of \$3.6 million, including \$285,000 of non-cash stock based compensation expense, for the corresponding quarter of 2008.

The Company's net loss from continuing operations in the fourth quarter of 2009 was \$4.1 million or \$0.29 per ordinary share, compared with a net profit from continuing operations of \$2.0 million or \$0.17 per ordinary share in the same period of 2008, during which the Company received \$7.4 million from Credit Suisse for the repurchase of all remaining Auction Rate Securities the Company purchased in 2007, as part of a settlement agreement Credit Suisse reached with the Attorney General of the State of New York and the North American Securities Administrators Association Task Force.

On a non-GAAP basis, excluding stock-compensation expense and impairment of investment on marketable securities, the net loss for the 2009 fourth quarter was \$3.6 million or \$0.25 per ordinary share. This compares with the comparable non-GAAP figures for the 2008 fourth quarter of a net loss of \$4.3 million or \$0.35 per ordinary share.

On a GAAP basis, the net loss for the 2009 fourth quarter was \$4.0 million, or \$0.28 per ordinary share. This compares with the GAAP net profit for the 2008 fourth quarter of \$1.1 million or \$0.09 per ordinary share, which includes the receipt of \$7.4 million from Credit Suisse for the repurchase of the Auction Rate Securities.

Details reconciling non-GAAP amounts with GAAP amounts are provided in the table below.

Full Year 2009 Results

For the year ended December 31, 2009 the Company reported revenues of \$150,000, compared with no revenues for the year ended December 31, 2008. The increase is largely due to royalty revenue from a previous agreement with Ambion (now Applied Biosystems) and service revenue associated with the Company's license agreement with Prometheus Laboratories.

On a non-GAAP basis, excluding stock-compensation expense and impairment of investment on marketable securities, the net loss for the year ended December 31, 2009 was \$15.2 million or \$1.12 per ordinary share. This compares with the comparable non-

GAAP figures for the year ended December 31, 2008 of a net loss of \$14.1 million or \$1.17 per ordinary share.

On a GAAP basis, the net loss for the year ended December 31, 2009 was \$16.5 million or \$1.22 per ordinary share. This compares with the GAAP net loss for the year ended December 31, 2008 of \$9.5 million or \$0.79 per ordinary share, which includes the receipt of \$7.4 million from Credit Suisse for the repurchase of the Auction Rate Securities.

As of December 31, 2009, the Company had \$10.3 million in cash, cash equivalents, short-term bank deposits and marketable securities. This does not include the \$4.65 million in net proceeds from the January 2010 registered direct offering.

Details reconciling non-GAAP amounts with GAAP amounts are provided in the table below.

2010 Financial Guidance

Rosetta Genomics affirms its 2010 financial forecast for revenues from the processing of tests to range from \$2 million to \$4 million based on processing between 1,200 and 2,400 samples, and for cash burn from operations to be approximately \$900,000 per month; however, this may change significantly based on a number of factors, including the Company's current assumptions of revenues and royalties from sales of its three marketed products, as well as the availability of other potential sources of cash.

Conference Call Information

Rosetta Genomics management will host a Business Update conference call on Wednesday, April 7, 2010 beginning at 10:00 a.m. Eastern time to discuss fourth quarter and year end 2009 financial results and recent corporate developments. To access the live conference call, U.S. and Canadian participants may dial (866) 239-5859; international participants may dial (702) 495-1913. The access code for the call is 65003695.

To access the 24-hour audio replay, beginning two hours after the event U.S. and Canadian participants may dial (800) 642-1687; international participants may dial (706) 645-9291. The access code for the replay is 65003695. The replay will be available through midnight Eastern time on April 9, 2010.

A live audio webcast of the call will also be available on the "Investors" section of the Company's website www.rosettagenomics.com. An archived webcast will be available on the Company's website beginning approximately two hours after the event, and will be archived for 30 days thereafter.

About microRNAs

MicroRNAs (miRNAs) are recently discovered, naturally occurring, small RNAs that act as master regulators and have the potential to form the basis for a new class of diagnostics and therapeutics. Since many diseases are caused by the abnormal activity of proteins, the ability to selectively regulate protein activity through microRNAs could

provide the means to treat a wide range of human diseases. In addition, microRNAs have been shown to have different expression in various pathological conditions. As a result, these differences may provide for a novel diagnostic strategy for many diseases.

About Rosetta Genomics

Rosetta Genomics is a leading developer of microRNA-based molecular diagnostics. Founded in 2000 the Company's integrative research platform combining bioinformatics and state-of-the-art laboratory processes has led to the discovery of hundreds of biologically validated novel human microRNAs. Building on its strong IP position and proprietary platform technologies, Rosetta Genomics is working on the application of these technologies in the development of a full range of microRNA-based diagnostic tools. The Company's first three microRNA-based tests, miRview™ squamous, miRview™ mets, and miRview™ meso, are commercially available through its Philadelphia-based CLIA-certified lab. Rosetta Genomics is the 2008 winner of Wall Street Journal's Technology Innovation Awards in the medical/biotech category.

Forward-Looking Statements

Various statements in this news release concerning Rosetta's future expectations, plans and prospects, including without limitation, statements relating to projected 2010 revenues, projected cash burn rate, the expected timing of development of our pipeline products, including our second-generation miRview mets test, and our expected expansion into additional areas such as response biomarkers and companion diagnostics, constitute forward-looking statements for the purposes of the safe harbor provisions under The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by these forward-looking statements as a result of various important factors, including those risks more fully discussed under "Key Information - Risk Factors" in Rosetta's Annual Report on Form 20-F for the year ended December 31, 2009 on file with the Securities and Exchange Commission. In addition, any forward-looking statements represent Rosetta's views only as of today and should not be relied upon as representing its views as of any subsequent date. Rosetta does not assume any obligation to update any forward-looking statements unless required by law.

Use of Non-GAAP Financial Measures

This press release contains certain non-GAAP financial measures. A "non-GAAP financial measure" refers to a numerical measure of historical or future financial performance, financial position, or cash flows that excludes (or includes) amounts that are included in (or excluded from) the most directly comparable measure calculated and presented in accordance with GAAP in the financial statements. In this release, Rosetta provides non-GAAP net loss and non-GAAP net loss per share data as additional information relating to its operating results. The presentation of this additional information is not meant to be considered in isolation or as a substitute for net loss or net loss per share prepared in accordance with GAAP.

Pursuant to the requirements of Regulation G promulgated by the SEC, the Company has provided a reconciliation of each non-GAAP financial measure used in this earnings release and related conference call or webcast to the most directly comparable financial measure prepared in accordance with GAAP. This reconciliation is presented in a table below under the heading "Reconciliation of GAAP to Non-GAAP Consolidated Statement of Operation." Investors are encouraged to review these reconciliations to ensure they have a thorough understanding of the reported non-GAAP financial measures and their most directly comparable GAAP financial measures.

Management uses these non-GAAP measures for internal reporting and forecasting purposes. The Company has provided these non-GAAP financial measures in addition to GAAP financial results because it believes that these non-GAAP financial measures provide useful information to certain investors and financial analysts for comparison across accounting periods not influenced by certain non-cash items that are not used by management when evaluating the Company's historical and prospective financial performance.

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[Tables to follow]

ROSETTA GENOMICS LTD. AND ITS SUBSIDIARY (A development stage company)

CONSOLIDATED STATEMENTS OF OPERATIONS

U.S. dollars in thousands (except share and per share data)

	Year ended December 31,		Three Months ended December 31,	
	2009	2008	2009	2008
	Audited		Unaudited	
Revenues	\$ 150	-	\$ 119	-
Cost Of Revenue	339	-	79	-
Gross loss (profit)	<u>189</u>	<u>-</u>	<u>(40)</u>	<u>-</u>
Operating expenses:				
Research and development, net	\$ 6,552	\$ 8,705	\$ 1,653	\$ 2,139
Marketing and business development	4,451	2,177	1,301	713
General and administrative	3,605	3,189	1,216	773
Total operating expenses	<u>14,608</u>	<u>14,071</u>	<u>4,170</u>	<u>3,625</u>
Operating loss	14,797	14,071	4,130	3,625
Financial expenses (income), net	(45)	(5,449)	(9)	(5,644)
Loss (profit) from continuing operations	<u>14,752</u>	<u>8,622</u>	<u>4,121</u>	<u>(2,019)</u>
Net loss from discontinued operation	<u>1,753</u>	<u>841</u>	<u>(79)</u>	<u>923</u>
Net loss (profit)	<u>\$ 16,505</u>	<u>\$ 9,463</u>	<u>\$ 4,042</u>	<u>\$ (1,096)</u>
Basic and diluted net loss per Ordinary share from continuing operation	<u>\$ 1.09</u>	<u>\$ 0.72</u>	<u>\$ 0.29</u>	<u>\$ (0.17)</u>
Basic and diluted net loss per Ordinary share from discontinuing operation	<u>\$ 0.13</u>	<u>\$ 0.07</u>	<u>\$ (0.01)</u>	<u>\$ 0.08</u>
Basic and diluted net loss (profit) per Ordinary share	<u>\$ 1.22</u>	<u>\$ 0.79</u>	<u>\$ 0.28</u>	<u>\$ (0.09)</u>
Weighted average number of Ordinary shares used to compute basic net loss (income) per Ordinary share	<u>13,543,324</u>	<u>12,038,295</u>	<u>14,216,586</u>	<u>12,171,932</u>
Weighted average number of Ordinary shares used to compute diluted net loss (income) per Ordinary share	<u>13,543,324</u>	<u>12,038,295</u>	<u>14,216,586</u>	<u>12,390,039</u>

RECONCILIATION OF GAAP TO NON-GAAP CONSOLIDATED STATEMENT OF OPERATION:
U.S. dollars in thousands (except share and per share data)

	<u>Year ended December 31,</u>		<u>Three Months ended</u>	
	<u>2009</u>	<u>2008</u>	<u>December 31,</u>	<u>2008</u>
GAAP net loss (profit) as reported	\$ 16,505	\$ 9,463	\$ 4,042	\$ (1,096)
NON-GAAP Adjustment:				
Expenses reported for stock-based compensation				
Research and development, net	(322)	(288)	(73)	(79)
Marketing and business development	(484)	(239)	(264)	(85)
General and administrative	(485)	(481)	(145)	(121)
Impairments of investments in marketable securities				
Financial expenses, net.	-	5,640	-	5,640
Total Adjustment	(1,291)	4,632	(482)	5,355
NON-GAAP net loss	<u>15,214</u>	<u>14,095</u>	<u>3,560</u>	<u>4,259</u>
NON-GAAP Basic net loss (income) per Ordinary share	<u>\$ 1.12</u>	<u>\$ 1.17</u>	<u>\$ 0.25</u>	<u>\$ 0.35</u>

ROSETTA GENOMICS LTD. AND ITS SUBSIDIARY (A development stage company)
CONSOLIDATED BALANCE SHEETS

U.S. dollars in thousands

	<u>December 31,</u> <u>2009</u> <u>Audited</u>	<u>December 31,</u> <u>2008</u> <u>Audited</u>
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	\$ 3,329	\$ 13,727
Restricted cash	1,076	643
Short-term bank deposits	3,143	840
Marketable securities	2,756	426
Trade receivables	72	-
Other accounts receivable and prepaid expenses	557	290
Current assets of discontinued operation	-	631
Total current assets	<u>10,933</u>	<u>16,557</u>
LONG TERM ACCOUNT RECEIVABLES	502	-
SEVERANCE PAY FUND	92	131
PROPERTY AND EQUIPMENT, NET	1,216	1,366
ASSETS OF DISCONTINUED OPERATION	-	2,214
Total long term assets	<u>1,810</u>	<u>3,711</u>
Total assets	<u>\$ 12,743</u>	<u>\$ 20,268</u>
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Current maturities of capital lease and of long-term loan	\$ 125	\$ 103
Trade payables	654	664
Other accounts payable and accruals	1,526	1,214
Liabilities of discontinued operations	-	572
Total current liabilities	<u>2,305</u>	<u>2,553</u>
LONG-TERM LIABILITIES:		
Long-term bank loan and capital lease	46	117
Convertible loan	1,500	750
Deferred revenue	1,928	228
Accrued severance pay	122	520
Total Long-term Liabilities	<u>3,596</u>	<u>1,615</u>
COMMITMENTS AND CONTINGENT LIABILITIES		
SHAREHOLDERS' EQUITY:		
Share capital	32	27
Additional paid-in capital	68,174	61,025
Other comprehensive income	96	3
Deficit accumulated during the development stage	<u>(61,460)</u>	<u>(44,955)</u>
Total shareholders' equity	<u>6,842</u>	<u>16,100</u>
Total liabilities and shareholders' equity	<u>\$ 12,743</u>	<u>\$ 20,268</u>

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