Rosetta Genomics Reports Fourth Quarter Financial Results, Outlines 2009 Plan Focused on a Noninvasive Colon Cancer Screening Diagnostic

Conference Call Begins at 8:30 a.m. Eastern Time Today

PHILADELPHIA and REHOVOT, Israel (March 26, 2009) – Rosetta Genomics, Ltd. (NASDAQ: ROSG), an innovative molecular diagnostic company leveraging microRNAs as biomarkers, reports consolidated financial results for the three and 12 months ended December 31, 2008. Highlights of the fourth quarter of 2008 and recent weeks include:

- Introducing the Company's first three cancer diagnostic tests in the U.S., miRview™ mets, miRview™ squamous and miRview™ meso
- Signing an exclusive distribution agreement for these tests with Teva Pharmaceuticals Ltd. for Israel and Turkey
- Unveiling initial data relating to miRscreen™ colon, a noninvasive colon cancer screening diagnostic that will be the Company's primary product-development focus in 2009

"During the fourth quarter we were proud to bring considerable development work to fruition as we commercialized multiple molecular diagnostic products based on our proprietary and versatile technology platform," said Amir Avniel, president and chief executive officer of Rosetta Genomics. "The U.S. introduction of our first three miRview™ tests during December of 2008 and the subsequent distribution agreement with Teva Pharmaceuticals mark the transition of Rosetta Genomics to a commercial company. Our miRview™ line of tests now offer physicians the unique advantages microRNAs hold as sensitive and specific biomarkers for more than 200,000 lung and metastatic cancer patients annually in the U.S.

"These tests leverage Rosetta Genomics' proprietary microRNA technologies, for which more than 80 patent applications are in process; we also have two issued patents and three Notices of Allowance. Importantly, our underlying serum-microRNA platform is extremely sensitive. It has demonstrated detection sensitivity on the order of a single molecule, single nucleotide specificity and up to 700-fold test-to-control increase of certain serum-microRNA biomarkers.[1]

"As we take pride in our commercial progress, we are constantly advancing new products through our pipeline. In early 2009 we unveiled miRscreen™ colon and reported the first-ever *in vivo* efficacy data for a systemic microRNA therapeutic for liver cancer. This year we expect to expand our commercial capabilities based on the same model we are using with Teva while focusing our energies on bringing our noninvasive colon cancer screening diagnostic to market in late 2009 or early 2010."

Mr. Avniel added, "Our colon cancer screening test will potentially target more than 90 million Americans annually,[2] and therefore holds tremendous financial potential. It will differentiate individuals with colon cancer from those without by detecting microRNA biomarkers in a test that is based on a simple blood draw. We believe that noninvasive testing is the future of our industry. We also believe our noninvasive colon cancer screen is so important that we have elected to accelerate its development."

The Company expects the following three key milestones related to the development and commercialization of miRscreen™ colon:

- First, by the end of the second quarter we expect to conclude the discovery phase, in which we will finalize the microRNA content of the test. In this phase, we will continue screening dozens of samples from colon cancer patients of various stages, as well as age-matched controls. In the past several months we have improved our microRNA panel for high-throughput screening to include additional potential markers, specifically focusing on more novel cancer and colon cancer related microRNAs we have discovered.

- Second, by the end of the third quarter we expect to complete the assay development phase. In this phase, as we have done with our first three products, we will translate the discovery results into an assay. This means we will finalize the list of biomarkers, the design of the plate, the various controls and QC parameters, as well as the optimal interpretation of the assay results for a colon cancer detection test.

- And third, should we be successful in developing this test, we expect the product to be commercially available in the U.S. through our CLIA-certified lab in late 2009 or early 2010. Within this timeframe we also expect to publicly present scientific data on the accuracy of our product.

"While these are ambitious goals, we believe our unique technology platform will enable us to successfully achieve them, as evidenced by the speedy time to market with our first three products," commented Mr. Avniel. "But let me caution that there are risks along the way in developing and ultimately commercializing this product. From a technical perspective, this is a complicated test and will be the first product of its kind to be commercialized, and we can provide no assurance that we will be able to successfully develop this product in this timeframe, or at all."

Beginning in 2010 Rosetta Genomics plans to continue work with various paraffin block-based tests it has previously discussed, either on its own or in conjunction with a corporate partner, as well as potentially with other noninvasive screening diagnostics.

Financial Overview

Revenues for the fourth quarter of 2008 were $806,000. Revenues for 2008 were $1.5 million. Operating loss for the fourth quarter of 2008 was $4.5 million (including a non-cash expense of $285,000 related to stock-based compensation and $850,000 goodwill impairment due to Parkway Clinical Laboratories), compared with an operating loss of $3.5 million (including a non-cash expense of $311,000 related to stock-based compensation) for the corresponding quarter of 2007. Operating loss for the year ended December 31, 2008 was $14.9 million (including a non-cash expense of $1.0 million related to stock-based compensation and $850,000 goodwill impairment due to Parkway Clinical Laboratories), compared with operating loss of $11.0 million (including a non-cash expense of $1.0 million related to stock-based compensation) for 2007.

Research and development expenses were $2.1 million for both the fourth quarter of 2008 and for the fourth quarter of 2007, and remain the Company's largest expense accounting for 43% of 2008 fourth quarter operating expenses, and 55% of 2008 operating expenses. Research and development expenses for the year ended December 31, 2008 were $8.7 million, compared with $6.4 million for 2007.

On a non-GAAP basis, excluding stock-compensation expense, goodwill impairment and capital gains, the net loss for the 2008 fourth quarter was $3.4 million or $0.29 per ordinary share, and for the year it was $13.2 million or $1.10 per ordinary share. This compares with the comparable figures for the 2007 fourth quarter and year of $2.9 million or $0.24 per ordinary share, and $8.6 million or $0.77 per ordinary share, respectively. On a GAAP basis, the net income for the 2008 fourth quarter was $1.1 million or $0.09 per ordinary share, and for the year it was a net loss of $9.5 million or $0.79 per ordinary share. This compares with the GAAP net loss for the 2007 fourth quarter and year of $8.2 million or $0.69 per ordinary share, and $14.6 million or $1.32 per ordinary share, respectively.

As of December 31, 2008 the Company had $15.7 million in cash, cash equivalents, short- and long-term bank deposits and marketable securities.

During the fourth quarter of 2008 Rosetta Genomics received $7.4 million from Credit Suisse for the repurchase of all remaining Auction Rate Securities the Company bought 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. The impairment charge that was recorded in 2007 was reversed in the fourth quarter, and the Company recorded a capital gain of $5.6 million on these securities.

Details reconciling non-GAAP amounts with GAAP amounts including specified items are provided in the table attached.

2009 Financial Guidance

The Company expects its cash burn for 2009 to be approximately $10 million, exclusive of the potential beneficial impact from any new distribution partnerships. The Company believes that its cash resources are sufficient to fund current operations until approximately mid-2010. Rosetta Genomics may pursue sources of additional funds during 2009, which may include funds generated through strategic collaborations or through equity financing.

Conference Call Information

Rosetta Genomics will host a conference call beginning at 8:30 a.m. Eastern time today to discuss fourth quarter activities and recent corporate developments. To access the live conference call, U.S. and Canadian participants may dial 1-866-966-5335; international participants may dial +44-20-3023-4460. To access the 24-hour audio replay, U.S. and Canadian participants may dial 1-866-583-1035; international participants may dial 44-20-8196-1998. The access code for the replay is 181543#. The replay will be available until April 2, 2009.

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 approximately two hours after the event, and will be archived for 30 days thereafter.

[1] 'Serum MicroRNAs as Biomarkers', Gilad et. al., PloS ONE, Sep 2008
[2] American Gastroenterological Association (www.fdhn.org)

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.

About MicroRNA

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 and therapeutic strategy for many diseases.

Forward-Looking Statements

Various statements in this release concerning Rosetta's future expectations, plans and prospects, including without limitation, statements relating to the role of microRNAs in human physiology and disease, the potential of microRNAs in the development of therapeutics and diagnostic products, the progress and timing of our diagnostic and therapeutic programs, including all statements relating to the intention to, timing for and our ability to successfully develop a non-invasive colon cancer screening diagnostic test, and Rosetta's expected cash burn for 2009 and the sufficiency of its current cash resources 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 risks related to: the continued uncertainty in the credit and capital markets; other changes in general economic and business conditions; Rosetta's approach to discover and develop novel diagnostics products, which is unproven and may never lead to commercially successful products or services; Rosetta's ability to fund and the results of preclinical and clinical trials; Rosetta's ability to obtain, maintain and protect the intellectual property utilized by Rosetta's products and to not infringe upon the intellectual property rights of third parties; Rosetta's ability to enforce its patents against infringers and to defend its patent portfolio against challenges from third parties; Rosetta's ability to obtain additional funding to support its business activities; Rosetta's dependence on third parties for development, manufacture, marketing, sales and distribution of products and services; the successful development of diagnostic and therapeutic products applying Rosetta's technology; Rosetta's ability to obtain regulatory clearances or approvals for products, as may be required under applicable laws; competition from others using technology similar to Rosetta's and others developing products for similar uses; Rosetta's dependence on collaborators; the ability to obtain coverage and payment from health plans and payers for diagnostic and therapeutic products applying Rosetta's technology and Rosetta's short operating history; as well as 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, 2007 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 Statements of Operations." 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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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,	
	2008	2007	2008	2007
			Unaudited	
Revenues	$ 1,511	-	$ 806	-
Cost Of Revenue	774	-	414	-
Gross Profit	737	-	392	-
Operating expenses:				
Research and development, net	$ 8,705	$ 6,400	$ 2,139	$ 2,113
Marketing and business development	2,368	1,742	853	561
General and administrative	3,703	2,903	1,075	857
Goodwill Impairment	850	-	850	-
Total operating expenses	15,626	11,045	4,917	3,531
Operating loss	14,889	11,045	4,525	3,531
Financial expenses (income), net	(5,449)	3,616	(5,644)	4,695
Loss (income) before taxes on income	$ 9,440	$ 14,661	$ (1,119)	$ 8,226
Taxes on income	23	-	23	-
Net loss (income)	9,463	14,661	(1,096)	8,226
Basic and diluted net loss (income) per Ordinary share	$ 0.79	$ 1.32	$ (0.09)	$ 0.69
Weighted average number of Ordinary shares used to compute basic net loss (income) per Ordinary share	12,038,295	11,142,149	12,171,932	11,887,445
Weighted average number of Ordinary shares used to compute diluted net loss (income) per Ordinary share	12,038,295	11,142,149	12,390,039	11,887,445

RECONCILIATION OF GAAP TO NON-GAAP CONSOLIDATED STATEMENT OF OPERATION:

	Year ended December 31,		Three Months ended December 31,	
	2008	**2007**	**2008**	**2007**
GAAP net loss (income) as reported	$ 9,463	$ 14,661	$ (1,096)	$ 8,226
NON-GAAP Adjustment:				
Expenses reported for stock-based compensation				
Research and development, net	(217)	(260)	(80)	(63)
Marketing and business development	(309)	(225)	(85)	(67)
General and administrative	(482)	(550)	(120)	(181)
Goodwill Impairment.	(850)	-	(850)	-
Impairments of investments in marketable securities				
Financial expenses (income), net	5,640	(5,009)	5,640	(5, 009)
Total Adjustment	$ 3,782	$ (6,044)	4,505	(5,320)
NON-GAAP net loss	$ 13,245	$ 8,617	3,409	2,906
NON-GAAP Basic net loss (income) per Ordinary share	$ 1.1	$ 0.77	$ 0.29	$ 0.24

ROSETTA GENOMICS LTD. AND ITS SUBSIDIARY (A development stage company)
CONSOLIDATED BALANCE SHEETS
U.S. dollars in thousands (except share and per share data)

	December 31,	
	2008	**2007**
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 14,454	$ 13,590
Short-term bank deposits	840	112
Marketable securities	426	8,251
Trade receivables	502	-
Other accounts receivable and prepaid expenses	335	297
Total current assets	16,557	22,250
LONG-TERM INVESTMENTS	-	2,391
SEVERANCE PAY FUND	131	144
PROPERTY AND EQUIPMENT, NET	1,301	1,253
GOODWILL	1,905	-
INTANGIBLE ASSETS	251	-
Total assets	$ 20,145	$ 26,038
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Short-term bank loan, current maturities of capital lease and of long-term loan	$ 81	$ 247
Trade payables	1,030	516
Other accounts payable and accruals	1,387	1,102
Total current liabilities	2,498	1,865
LONG-TERM LIABILITIES:		
Long-term bank loan and capital lease	49	16
Convertible loan	750	-
Deferred revenue	228	228
Accrued severance pay	520	324
Total Long-term Liabilities	1,547	568
COMMITMENTS AND CONTINGENT LIABILITIES		
SHAREHOLDERS' EQUITY:		
Share capital:	34	27
Additional paid-in capital	61,018	58,984
Other comprehensive income	3	86
Deficit accumulated during the development stage	(44,955)	(35,492)
Total shareholders' equity	16,100	23,605
Total liabilities and shareholders' equity	$ 20,145	$ 26,038

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