Rosetta Genomics Reports Second Quarter Financial Results, Provides Business Update

Conference Call Begins at 4:30 p.m. Eastern Time Today

PHILADELPHIA and REHOVOT, Israel (September 8, 2009) – Rosetta Genomics, Ltd. (NASDAQ: ROSG), a leading developer of microRNA-based molecular diagnostics, today reported financial results for the three and six months ended June 30, 2009. Highlights of the second quarter of 2009 and subsequent weeks include:

- Entering into exclusive distribution agreements with Warnex Laboratories, Super Religare Laboratories and AXA Diagnostics for our first three cancer diagnostic tests, miRview™ mets, miRview™ squamous and miRview™ meso
- Receiving clearance from the states of California, Maryland and Rhode Island for our CLIA-certified laboratory, bringing the total to 48 U.S. states
- Continuing development of our colon cancer screening test
- Selling Parkway Clinical Laboratories for up to $2.5 million
- Announcing plans for Amir Avniel to step down as chief executive officer of Rosetta Genomics once a successor is in place in order to lead Rosetta Green, the company's early stage, cleantech division

Management Commentary

"Building on distribution agreements covering the U.S., Israel and Turkey, we continued to build commercial momentum by signing three additional agreements for our first microRNA tests, which diagnose cancer metastases and differentiate between two types of lung cancer," said Amir Avniel, chief executive officer of Rosetta Genomics. "Through an agreement with Warnex Medical Laboratories our products are now available in Canada; through an agreement with Super Religare Laboratories we added India and other countries; and through an agreement with AXA Diagnostics we added Italy, marking our entrée into Europe. All of these agreements call for samples to be sent to Rosetta Laboratories for analysis. Our goal is through distribution agreements to provide access to our products to 1.5 billion people around the globe by the end of this year.

"We are continuing the development of miRscreen™ colon, a minimally-invasive, serum-based test for colon cancer," Mr. Avniel added. "Since reporting in January initial results that showed that two microRNA biomarkers, obtained from a simple blood draw, differentiated colon cancer patients from healthy individuals with 91% sensitivity and 72% specificity in a study of 120 patients, we have continued our efforts to improve the technology. Our goal is to be able to quantify cancer-related microRNA in body fluid samples in a more sensitive and reproducible manner. We expect to spend the rest of this year and the first half of 2010 on additional discovery and validation, and

that in the second and third quarters of 2010 we will work with a number of hospitals in the United States to screen approximately 1,000 samples in our lab in Philadelphia. If we are successful in developing and validating this test in this timeframe, we would expect to have the test ready for commercial sale around mid-2010."

Rosetta Genomics is also announcing that Amir Avniel plans to step down as chief executive officer of the company as soon as a successor is in place, and will subsequently lead Rosetta Green, the company's early-stage cleantech division that is utilizing its microRNA technology in energy and agriculture. Research conducted at Rosetta Green has been used to develop algae with increased oil content, and Rosetta scientists have also discovered a promising relationship between certain microRNAs and drought tolerance in corn. Future plans call for this division to be developed into a commercial entity to be spun off or sold.

Financial Overview

Revenues from continuing operations, which derived from the company's core technology, for the second quarter of 2009 were $14,000 as the company began processing samples for its three miRview molecular diagnostics tests at its CLIA-certified laboratory. The company recorded no revenues in the second quarter of 2008. Revenue previously reported from Parkway Clinical Laboratories is now classified in discontinued operations.

Research and development expenses were $1.4 million for the second quarter of 2009, compared with $2.2 million for the second quarter of 2008. R&D expenses decreased mainly due to expense reimbursement for projects in the current quarter and steps taken by the company to reduce costs.

Marketing and business development expenses were $1.4 million for the second quarter of 2009, compared with $434,000 for the second quarter of 2008. The increase resulted primarily from expenses related to the transaction with Prometheus Laboratories.

General and administrative expenses were $749,000 in the second quarter of 2009, compared with $896,000 in the second quarter of 2008.

The operating loss for the second quarter of 2009 was $3.8 million, including $268,000 of non-cash stock based compensation expense. This compares with an operating loss of $3.5 million, including $295,000 of non-cash stock based compensation expense, for the corresponding quarter of 2008.

The company's net loss from continuing operations in the second quarter of 2009 was $3.8 million or $0.27 per ordinary share, compared with a net loss from continuing operations of $3.7 million or $0.31 per ordinary share in the same period of 2008.

In May 2009, the company sold Parkway Clinical Laboratories in a management buy-out for up to $2.5 million, which will be paid as a fixed percentage of revenues over six years. Rosetta Genomics recorded a net loss from discontinued operation of $2.2 million related to this transaction in the second quarter of 2009, and future payments by Parkway's current owners will be recorded as a discontinued operation.

On a non-GAAP basis, excluding stock-compensation expense, the net loss for the 2009 second quarter was $5.7 million, or $0.42 per ordinary share. This compares with the comparable figures for the 2008 second quarter of $3.1 million, or $0.26 per ordinary share.

On a GAAP basis, the net loss for the 2009 second quarter was $6.0 million, or $0.44 per ordinary share. This compares with the GAAP net loss for the 2008 second quarter of $3.7 million or $0.31 per ordinary share.

For the six months ended June 30, 2009 the company reported revenues from continuing operations, of $31,000, compared with no revenues, in the prior year's period. The company's net loss from continuing operations in the first half of 2009 was $7.2 million or $0.55 per ordinary share, compared with a net loss from continuing operations of $7.6 million, or $0.63 per ordinary share in the same period of 2008.

As of June 30, 2009, the company had $16.7 million in cash, cash equivalents, short and long term bank deposits and marketable securities. Cash includes the $8 million received from Prometheus Laboratories, upon the purchase of 2 million of our ordinary shares at a purchase price of $4 per ordinary share.

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

2009 Financial Guidance

The company affirms its previous guidance and continues to expect its cash burn from operations for 2009 to be approximately $10 million, exclusive of the potential beneficial impact from any new distribution partnerships.

Conference Call Information

Rosetta Genomics will host a conference call beginning at 4:30 pm. Eastern time today to discuss second quarter 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. To access the 24-hour audio replay, U.S. and Canadian participants may dial (800) 642-1687; international participants may dial (706) 645-9291. The access code for the replay is 26563562. The replay will be available through September 10, 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.

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 (NASDAQ: ROSG) 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 release concerning Rosetta's future expectations, plans and prospects, including without limitation, statements relating to our ability to successfully develop and validate the miRscreen™ colon screening test in the timeframe we have provided, or at all; our expected expansion of distribution arrangements; our future plans for Rosetta Green; and our financial guidance for 2009, the development of early detection cancer screening products, including a non-invasive colon cancer screening test, 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, 2008 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)

	Six month ended June 31,		Three Months ended June 31,	
	2009	2008	2009	2008
	Unaudited		Unaudited	
Revenues	$ 31	-	$ 14	-
Cost Of Revenue	305	-	167	-
Gross loss	274	-	153	-
Operating expenses:				
Research and development, net	$ 3,117	$ 4,571	$ 1,432	$ 2,182
Marketing and business development	2,299	945	1,435	434
General and administrative	1,499	1,725	749	896
Total operating expenses	6,915	7,241	3,616	3,512
Operating loss	7,189	7,241	3,769	3,512
Financial expenses, net	18	334	30	185
Net loss before discontinued operation	7,207	7,575	3,799	3,697
Net loss from discontinued operation	2,379	-	2,168	-
Net loss after discontinued operation	$ 9,586	$ 7,575	$ 5,967	$ 3,697
Basic and diluted net loss per Ordinary share of continuing operation	$ 0.56	$ 0.63	$ 0.28	$ 0.31
Basic and diluted net loss per Ordinary share of discontinuing operation	$ 0.18	$ -	$ 0.16	$ -
Basic and diluted net loss per Ordinary share	$ 0.74	$ 0.63	$ 0.44	$ 0.31
Weighted average number of Ordinary shares used to compute basic and diluted net loss per Ordinary share	12,880,557	11,929,689	13,581,036	11,939,107

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

	Six Months ended June 30,		Three Months ended June 30,	
	2009	**2008**	**2009**	**2008**
GAAP net loss as reported	$ 9,586	$ 7,575	$ 5,967	$ 3,697
NON-GAAP Adjustment:				
Expenses reported for stock-based compensation				
Research and development, net	(164)	(136)	(88)	(81)
Marketing and business development	(162)	(94)	(60)	(44)
General and administrative	(219)	(255)	(120)	(170)
Impairments of investments in marketable securities				
Financial expenses (income), net	-	(631)	-	(330)
Total Adjustment	(545)	(1,116)	(268)	(625)
NON-GAAP net loss	9,041	6,459	5,699	3,072
NON-GAAP Basic net loss (income) per Ordinary share	$ 0.70	$ 0.54	$ 0.42	$ 0.26

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

	June 30, 2009 Unaudited	December 31, 2008
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 6,412	$ 14,370
Short-term bank deposits	9,076	840
Marketable securities	1,194	426
Trade receivables	31	-
Other accounts receivable and prepaid expenses	583	290
Current assets of discontinued operation	-	631
Total current assets	17,296	16,557
SEVERANCE PAY FUND	75	131
PROPERTY AND EQUIPMENT, NET	1,177	1,243
ASSETS OF DISCONTINUED OPERATION	-	2,214
Total long term assets	1,252	3,588
Total assets	$ 18,548	$ 20,145
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Current maturities of capital lease and of long-term loan	$ 45	$ 54
Trade payables	983	664
Other accounts payable and accruals	1,178	1,214
Liabilities of discontinued operation	-	572
Total current liabilities	2,206	2,504
LONG-TERM LIABILITIES:		
Long-term bank loan and capital lease	21	43
Convertible loan	1,500	750
Deferred revenue	1,928	228
Accrued severance pay	107	520
Total Long-term Liabilities	3,556	1,541
COMMITMENTS AND CONTINGENT LIABILITIES		
SHAREHOLDERS' EQUITY:		
Share capital:	32	27
Additional paid-in capital	67,295	61,025
Other comprehensive income	-	3
Deficit accumulated during the development stage	(54,541)	(44,955)
Total shareholders' equity	12,786	16,100
Total liabilities and shareholders' equity	$ 18,548	$ 20,145

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