Rosetta Genomics Reports Third Quarter 2008 Financial Results; Records First Revenues of $705,000; $7.4 Million Added to Available Cash Due to Repurchase of ARS

- **First tests based on the company's technology expected to be introduced to the market shortly**
- **Initiates research and development of blood-based microRNA tests for various types of cancers including colon, lung and others**
- **Launches Rosetta Green, a microRNA-based plant biotechnology initiative, and secured up to $1.5M for this project from private investors which will be invested as certain milestones are reached**

Rehovot, Israel; Jersey City, New Jersey (December 5, 2008) - Rosetta Genomics, Ltd. (NASDAQ: ROSG), an innovative molecular diagnostic company leveraging microRNAs as biomarkers, reported today its consolidated financial results for the quarter ended September 30, 2008 and business highlights.

The company recorded revenues for the third quarter of 2008 of $705,000. These revenues were recorded from the date of acquisition of Parkway Clinical Laboratories at the end of July through September 30, 2008. The company reported a 2008 third-quarter net loss of $3.0 million, or $0.25 per ordinary share. The third-quarter result compares with a net loss of $2.2 million, or $0.18 per ordinary share, for the corresponding quarter of 2007. Net loss for the nine months ended September 30, 2008 was $10.6 million, or $0.88 per ordinary share, compared with a net loss of $6.4 million, or $0.59 per ordinary share, for the corresponding period of 2007.

"This has been a very busy quarter for us at Rosetta Genomics, as we near the introduction to the market of the first molecular diagnostic tests based on our technology." said Amir Avniel, President and CEO of Rosetta Genomics. "As part of our goal to become a leading player in the molecular diagnostic field, introducing innovative tests using our proprietary microRNA technologies, we have initiated a blood based cancer detection development program. These tests will potentially use microRNAs extracted from a simple blood draw, and provide a minimally-invasive detection and screening tool for both patients and physicians. We have already identified microRNAs in serum, and are now advancing several diagnostic programs based on these findings.
We believe that given their minimally invasive nature, as well as other important advantages, blood-based microRNA tests represent a significant opportunity for us at this stage.
Recently, our commercial efforts have received a significant push with two key financial events. We are excited to report our first revenues which were generated by Parkway

Clinical laboratories, our recently acquired CLIA-certified lab in Pennsylvania. The second financial event is the repurchase of $7.4 million worth of Rosetta Genomics-held Auction Rate Securities by Credit Suisse in the fourth quarter.
In addition to the commercial achievements we have made during this past quarter, we have made significant R&D progress. We have recently launched "Rosetta Green" a microRNA-based plant biotechnology project which will focus on the development of a wide range of plant-based applications using microRNAs. This project has been well received by the industry, and we look forward to its growth and expansion.
This has been an overall excellent quarter for us, and we expect the progress we have made will continue throughout the remainder of the year."

Financial Overview

Revenues for the third quarter of 2008 were $705,000.
Operating loss for the third quarter were 2008 was $3.1 million (including a non-cash expense of $237,000 related to stock-based compensation), compared with an operating loss of $2.6 million (including a non-cash expense of $236,000 related to stock-based compensation) for the corresponding quarter of 2007. Net loss for the third quarter of 2008 was $3.0 million, or $0.25 per ordinary share, compared with a net loss of $2.2 million, or $0.18 per ordinary share, for the corresponding quarter of 2007.

Revenues for the nine months ended September 30, 2008 were $705,000. Net loss for the nine months ended September 30, 2008 was $10.6 million (including a non-cash expense of $ 723,000 related to stock-based compensation), or $0.88 per ordinary share, compared with a net loss of $6.4 million (including a non-cash expense of $699,000 related to stock-based compensation), or $0.59 per ordinary share, for the corresponding period of 2007.

Research and development expenses of $2.0 million for the third quarter of 2008 and of $6.6 million for the nine months ended September 30, 2008, compared to $1.4 million and $4.3 million for the corresponding periods of 2007, respectively, remain the company's largest expense and accounted for 64% of its operating loss in the third quarter of 2008.

As of September 30, 2008, we had $12.9 million in cash, cash equivalents, short term bank deposits, and marketable securities. Our outlook of total cash usage for operating activities for the remaining three months of 2008 is approximately $3 million. In July 2008 we paid $1.9 million in cash for the purchase of Parkway Clinical Laboratories, Inc.

As previously disclosed, the company has recorded an impairment charge relating to $7.4 million in Auction Rate Securities (ARS), purchased in 2007, which have experienced multiple failed auctions due to a lack of liquidity in the markets for these securities. As part of a settlement agreement it reached with the Attorney General of the State of New York and the North American Securities Administrators Association Task Force, Credit Suisse agreed to repurchase these ARS from Rosetta. Credit Suisse has repurchased the entire $7.4 million.

Recent Highlights

Rosetta Genomics reports the following scientific and corporate highlights:

Diagnostic Programs

- miRview™ squamous – Rosetta has recently completed the development of this test at its Philadelphia lab. The test differentiates squamous from non squamous non-small cell lung cancer (NSCLC) with high sensitivity and specificity. The ability of physicians to accurately differentiate squamous from non-squamous NSCLC is an important treatment guide. Bevacizumab, an angiogenesis inhibitor and an important new modality of therapy for non-squamous NSCLC, includes a black-box warning about substantially higher rates of severe or fatal hemorrhage among patients with squamous NSCLC histology compared with non-squamous NSCLC. In addition, several other targeted drugs for NSCLC currently under development may require this type of sensitive differentiation.

- miRview™ mets – This test is designed to identify the primary origin of a metastasis, and is currently in the final stages of development. This test is for patients who have been identified with a metastasis, including CUP (cancer of unknown primary) patients, and need the primary origin identified so that proper treatment may be administered.

- miRdicator meso – This test, developed by Columbia University Medical Center, based on Rosetta Genomics' technology, has recently been filed for clinical use with the New York State Department of Health. It is designed to differentiate between mesothelioma and adenocarcinomas in the lung. This is critical for optimal therapy, but it is often difficult to differentiate these tumors. Currently, there is no objective, standardized test to aid pathologists in differentiating between the many possible tumors in the lung and pleura.

Therapeutic Programs

- The company's therapeutic collaboration with Isis Pharmaceuticals (Nasdaq: ISIS), focused on the development of microRNA-based therapeutics for hepatocellular carcinoma has been transferred to Regulus Therapeutics. Regulus, a joint venture between Alnylam Pharmaceuticals and Isis Pharmaceuticals focused on the development of microRNA-based therapeutics, and Rosetta Genomics will continue collaborating under the same terms and conditions. This project is partially funded by the Israel-U.S. Binational Industrial Research and Development (BIRD) foundation.

Collaborations and Licensing

- Johns Hopkins University School of Medicine has initiated a clinical assessment study to compare Rosetta Genomics' miRview™ squamous, which differentiates squamous from non squamous non small cell lung cancer, with available immunohistochemistry methods.
- Initiated a collaboration with the National Institute of Health (NIH) to identify microRNAs involved in the progression of the Human Immunodeficiency Virus (HIV), that may be used as potential drug targets.

Publications

- Published results of a study conducted by Rosetta Genomics' scientists describing the identification of microRNA biomarkers in blood serum. The findings, published online in the peer-reviewed journal *PLOS One*, demonstrate that microRNAs have the potential to be used as clinical biomarkers for a wide range of indications in cancer and women's health.
- A collaborative study published online in Biochemical and Biophysical Research Communications, by scientists from the Weizmann Institute of Science and scientists at Sheba Medical Center, with the aid of Rosetta Genomics, has demonstrated that a microRNA first disclosed by the company increased the efficacy of Imatinib (Gleevec®) in Glioblastoma (GBM), the most common and most aggressive type of primary brain tumor.

Conferences and Events

Rosetta Genomics presented at the following conferences and events:

- Maxim Group Growth Conference, New York City, October, 2008.
- EORTC-NCI-ASCO Annual Meeting on "Molecular Markers in Cancer". October 2008, Florida.
- Oppenheimer 19th Annual Healthcare Conference. November 2008, New York City.
- AACR's centennial conference "Translational Cancer Medicine 2008: Bridging the Lab and Clinic in Cancer Medicine" Molecular Diagnostics in Cancer Therapeutic Development conference. November 2008, Jerusalem, Israel.
- Rodman & Renshaw 10th Annual Healthcare Conference. November 2008, New York City.

Conference Call Information
Rosetta Genomics will host a conference call at 08:00 a.m. ET today to discuss third-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 December 12, 2008.

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 leader in the field of microRNAs. 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 and therapeutic tools, focusing primarily on cancer and various women's health indications.

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Forward-Looking Statement Disclaimer

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 the expected launch of the first diagnostic tests applying Rosetta Genomics' technology in 2008, and Rosetta's expected cash usage in the fourth quarter of 2008 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 marketable products or services; Rosetta's ability to fund and the results of pre-clinical and clinical trials; Rosetta's ability to obtain, maintain and protect the intellectual property utilized by Rosetta's products; 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.

CONSOLIDATED STATEMENTS OF OPERATIONS

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

	Nine months ended September 30,		Three months ended September 30,	
	2008	2007	2008	2007
	Unaudited		Unaudited	
Revenues	$ 705	$ -	$ 705	$ -
Cost of revenues	360	-	360	-
Gross Profit	$ 345	$ -	$ 345	$ -
Operating expenses:				
Research and development, net	$ 6,566	$ 4,287	$ 1,995	$ 1,423
Marketing and business development	1,515	1,181	570	394
General and administrative	2,628	2,046	903	771
Total Operating Expenses	10,709	7,514	3,468	2,588
Operating loss	10,364	7,514	3,123	2,588
Financial expenses(income) net	195	(1,079)	(139)	(424)
Net loss	$ 10,559	$ 6,435	$ 2,984	$ 2,164
Basic and diluted net loss per Ordinary share	$ 0.88	$ 0.59	$ 0.25	$ 0.18
Weighted average number of Ordinary shares to compute basic and diluted net loss per Ordinary	$ 11,993,425	10,877,274	12,119,510	11,866,824

CONSOLIDATED BALANCE SHEETS

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

	September 30, 2008 Unaudited	December 31, 2007
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 9,982	$ 13,590
Short-term bank deposits	112	112
Marketable securities	2,782	8,251
Trade receivables, net	370	-
Other accounts receivable and prepaid expenses	445	297
Total current assets	13,691	22,250
LONG-TERM INVESTMENTS	-	2,391
SEVERANCE PAY FUND	149	144
PROPERTY AND EQUIPMENT, NET	1,371	1,253
GOODWILL	2,733	—
OTHER ASSETS	359	—
Total assets	$ 18,303	$ 26,038
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Current maturities of capital lease and of long-term loan	$ 57	$ 247
Trade payables	919	516
Other accounts payable and accruals	1,134	1,102
Total current liabilities	2,110	1,865
LONG-TERM LIABILITIES:		
Long-term bank loan and capital lease	48	16
Convertible loan	750	—
Deferred revenue	228	228
Accrued severance pay	320	324
Total Long-term Liabilities	1,346	568
COMMITMENTS AND CONTINGENT LIABILITIES		
SHAREHOLDERS' EQUITY:		
Share capital:	34	27
Additional paid-in capital	60,733	58,984
Other comprehensive income	131	86
Deficit accumulated during the development stage	(46,051)	(35,492)
Total shareholders' equity	14,847	23,605
Total liabilities and shareholders' equity	$ 18,303	$ 26,038