News Release

Rosetta Genomics Reports Fourth-Quarter and Full-Year 2007 Financial Results

- **Launch of first three diagnostic tests based on company's microRNA technology on schedule for 2008**

Rehovot, Israel; North Brunswick, New Jersey (February 29, 2008) - Rosetta Genomics, Ltd. (NASDAQ: ROSG), a leading molecular diagnostics company, today reported a narrower operating loss per ordinary share for the fourth quarter of 2007 compared with corresponding period of 2006, and said it remains solidly on target for the launch of the first three diagnostic tests based on the company's proprietary microRNA technology, this year.

2007 fourth-quarter operating loss of $3.5 million (including a non-cash expense of $311,000 related to stock based compensation), or $0.30 per ordinary share compares with an operating loss of $2.2 million (including a non-cash expense of $302,000 related to stock based compensation), or $0.87 per ordinary share, for the corresponding quarter of 2006. Operating loss for the year ended December 31, 2007, was $11 million (including a non-cash expense of $1 million related to stock based compensation), or $0.99 per ordinary share, compared with an operating loss of $8.1 million (including a non-cash expense of $1 million related to stock based compensation), or $3.19 per ordinary share, for 2006.

"Rosetta Genomics had a truly remarkable year in 2007, with significant progress, in all fronts of our business, toward meeting patients' unmet medical needs," said Amir Avniel, President and CEO. "The rapid advancements of our diagnostic programs throughout 2007 is expected to lead to the first launch of diagnostic tests in 2008 based on our microRNA technology. I expect 2008 to be a defining year for us, and I am confident we will continue to play a leading role in revolutionizing the molecular diagnostics field."

Mr. Avniel said the three tests will differentiate squamous from non-squamous cell lung cancer; differentiate mesothelioma from adenocarcinoma; and identify the origin of a tumor in cancer of unknown primary (CUP). These tests, applying Rosetta Genomics microRNA technology, will be validated and offered by clinical laboratories that are state-licensed and CLIA-certified, as applicable.

The tests based on Rosetta Genomics' microRNA technology share three common features. First, they are designed to offer clinicians standardized, objective diagnostic information. Second, they are designed to assist clinicians in determining the most appropriate treatment for patients. Third, the tests are backed by a strong pharmacoeconomic rationale. "We are constantly expanding our diagnostic pipeline, both through collaborations as well as internally, with tests aimed to fulfill these three objectives," Mr. Avniel said.

Mr. Avniel noted that 2007 also saw continued progress in Rosetta Genomics' microRNA-based therapeutics program for liver cancer, conducted in collaboration with Isis Pharmaceuticals, with *in vivo* studies initiated.

Mr. Avniel added that concerning intellectual property, Rosetta Genomics "has continued to strengthen its portfolio this year, with 2 patents issued, 2 patents allowed, and 22 applications under active examination, as well as four new patent applications filed during Q4 of 2007."

Financial Overview

Operating loss for the fourth quarter of 2007 was $3.5 million (including a non-cash expense of $311,000 related to stock based compensation), compared with an operating loss of $2.2 million (including a non-cash expense of $302,000 related to stock based compensation), for the corresponding quarter of 2006. Operating loss for the year ended December 31, 2007 was $11 million (including a non-cash expense of $1 million related to stock based compensation), compared with operating loss of $8.1 million (including a non-cash expense of $1 million related to stock based compensation), for 2006.

Research and development expenses of $2.1 million for the fourth quarter of 2007, compared to $1.3 million for the fourth quarter of 2006, remain the Company's largest expense and accounted for 60% of its operating losses. Research and development expenses for the year ended December 31, 2007 were $6.4 million compared to $4.8 million for 2006.

On a NON-GAAP basis, the net loss for the year ended December 31, 2007 was $8.6 million, or $0.77 per ordinary share, compares with a net loss of $6.6 million for 2006, or $2.59 per ordinary share. On a GAAP basis, the net loss for 2007, including a non-cash expense of $1 million related to stock based compensation and an impairment of long-term investment of $5 million, was $14.6 million, or $1.32 per ordinary share, compared with a net loss of $7.6 million, including a non-cash expense of $1 million related to stock based compensation, or $2.98 per ordinary share, for 2006.

As of December 31, 2007, net allowance for devaluation of $5 million, we had $24.3 million in cash, cash equivalents, short and long term bank deposits and marketable securities. Our outlook of total cash usage for 2008 is approximately $14 million.

As of December 31, 2007, the Company had $7.4 million of principal invested in Auction Rate Securities (ARS) rated AAA at the time of purchase, and as of today all of our ARS, except for two, are still rated AAA, and all continue to pay interest in accordance with their stated terms**.** However, since these ARS have experienced multiple failed auctions due to a lack of liquidity in the market for these securities, based on third party indications, the Company has revalued its ARS portfolio. As a result, it has recorded an impairment charge of $5 million on the profit and loss statement with respect to these ARS, the devaluation of which is considered "other than temporary."

The accounting treatment and final results for 2007 may change based upon final third party valuations regarding these securities. If uncertainties in the credit market continue, these markets deteriorate further or the company experiences any ratings downgrades on its investments in ARS, the company may incur additional impairments to its investment in ARS. The Company

believes that based on its current cash, cash equivalents, short and long term bank deposits and marketable securities balances at December 31, 2007 and its expected operating cash flows, the current lack of liquidity of these securities will not have a material impact on the Company's ability to fund its operations, unless this current lack of liquidity persists after the third quarter of 2009.

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

Recent Highlights

Rosetta Genomics reports the following scientific and corporate highlights:

Diagnostic Programs

- Squamous vs. Non Squamous non-small cell lung cancer (NSCLC) – Bevacizumab (Avastin®[1]) in combination with carboplatin and paclitaxel, is indicated for first line treatment of patients with unresectable, locally advanced, recurrent or metastatic non-squamous, NSCLC cancer, and the package labeling warns that the incidence of severe or fatal hemoptysis was 31% in patients with squamous histology and 2.3% in patients with NSCLC excluding predominant squamous histology. However, no objective, standardized test for differentiating squamous from non-squamous NSCLC is currently available commercially. A novel test to differentiate squamous vs. non-squamous NSCLC based on a single microRNA biomarker applying the Rosetta Genomics technology is being validated and is expected to be filed with the New York Department of Health during H1 2008.

- Mesothelioma vs. Adenocarcinoma – Differentiating between mesothelioma vs adenocarcinoma is critical for 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. Based on a few microRNA biomarkers applying the Rosetta Genomics technology, this test is being developed to separate mesothelioma from adenocarcinoma tumors including lung adenocarcinoma and metastases to the lung or to the pleura. This test is expected to be filed with the New York Department of Health in H2 2008.

- Cancer of Unknown Primary (CUP) – We continued to advance assay development of microRNA-based test for cancer of unknown primary (CUP). The test is being developed to distinguish among more than 20 possible tissues of origin, and it is expected to be filed with the New York Department of Health in H2 2008.

- Additional diagnostic tests – We continued the expansion of our microRNA-based diagnostic pipeline with cancer-related indications and indications related to women's health.
  - Identified microRNAs that are potential biomarkers for differential diagnosis of the following in lung cancer: primary vs. metastases, neuroendocrine tumors vs.

[1] Avastin is a registered trademark of Genentech, Inc.

- non-small cell lung cancer, lung cancer vs. thymoma, and carcinoid vs. other neuroendocrine tumors.
- Identified specific microRNAs that are markers to differentiate between primary liver and brain tumors and metastases to these organs.
- Women's health: Identified specific microRNAs that may be potential markers for preeclampsia in serum. Demonstrated correlation between microRNAs in serum and physiological conditions.

Therapeutic Programs

- Liver Cancer Therapeutic - Rosetta Genomics, in collaboration with Isis Pharmaceuticals, Inc., has entered *in vivo* studies on antisense oligonucleotide leads designed to inhibit a microRNA that it has identified as a potential drug target.

Collaborations and Licensing

- Initiated a collaboration with Columbia University Medical Center to develop microRNA-based diagnostic tests, for early detection as well as prognosis, for diffuse large cell lymphoma, transformed follicular lymphoma, and for chronic lymphocytic leukemia.

- Licensed Nanogen's Minor Groove Binder (MGB) probe technology for polymerase chain reaction (PCR) for our microRNA-based diagnostics.

- Licensed Roche PCR technology for use in Rosetta Genomics' microRNA-based diagnostics.

- Initiated a collaboration with NYU Medical Center to leverage the potential of microRNA profiles to develop diagnostic tests for various forms of congenital heart disease. This collaboration will screen for specific microRNA biomarkers and signatures that may be used to develop tests to diagnose and target congenital heart disease in newborns.

- Following the licenses from Roche and Nanogen for diagnostic applications, Rosetta Genomics and U.S Genomics have mutually decided to terminate their collaboration focused on the use of U.S. Genomics' microRNA expression profiling platform.

Conferences and Events

Rosetta Genomics presented at the following conferences and events:

- American Association for Cancer Research (AACR) – The Role of Non-coding RNAs in Cancer, October 31-November 3, 2007, Cambridge, MA
- Gene-Cards symposium, November 11, 2007, Weizmann Institute of Science
- CELCC-ESMO predictive factors in lung cancer December 7-8, 2007, Vienna, Austria
- RBC Healthcare conference, December 12, 2007, New York, NY

Future Conferences and Events

Rosetta Genomics will present at the following upcoming events:

- CHI MicroRNA in Human Disease and Development conference, March 10-11, 2008, Cambridge, MA
- AACR Annual Meeting, April 12-16, 2008, San Diego, CA

Conference Call Information
Rosetta Genomics will host a conference call at 8:30 a.m. ET 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 44-20-8196-1996. The access code for the replay is 181543#. The replay will be available until March 7, 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 leading molecular diagnostics company developing microRNA-based technologies used in the development of diagnostic tests and therapeutics. 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 to develop a full range of microRNA-based diagnostic and therapeutic tools, focusing primarily on cancer and various women's health indications. The company expects the first microRNA diagnostic tests based on its technology to be launched during 2008.

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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 the Rosetta Genomics technology in 2008, and Rosetta's expected cash usage in 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 that may result in these markets deteriorating further or Rosetta experiencing additional ratings downgrades on any ongoing investments in its portfolio (including on ARS); changes in the accounting treatment and final results for 2007 resulting from final third party valuations of the ARS; the current lack of liquidity of the ARS having a impact on Rosetta's liquidity, cash flow or its ability to fund its operations; 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 further 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, all of which are in early stages of development; 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, 2006 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.

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,	
	200 7	2006	2007	2006
			Unaudited	
Operating expenses:				$
Research and development, net	$ 6,4 00	$ 4,781	$ 2, 113	1,335
Marketing and business development	1, 742	1,504	561	388
General and administrative	2, 903	1,860	857	507
Operating loss	11,045	8,145	3,531	2,230
Financial expenses (income), net	3,616	(538)	4,695	(122)
Net loss	$ 14,661	$ 7,607	$ 8,226	$ 2,108
Basic and diluted net loss per Ordinary share	$ 1.32	$ 2.98	$ 0.69	$ 0.82
Weighted average number of Ordinary shares used to compute basic and diluted net loss per Ordinary share	,14 2, 149	2,551,860	11,887,445	2,556,205

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

	Year Ended December 31,		Three Months ended December 31,	
	2007	2006	2007	2006
			Unaudited	
GAAP net loss as reported	$ 14,661	$ 7,607	$ 8,226	$ 2,108
NON-GAAP Adjustment:				
Expenses reported for stock-based compensation				
Research and development, net	(260)	(247)	(63)	(77)
Marketing and business development	(225)	(49)	(67)	(32)
General and administrative	(550)	(696)	(181	(193)
Impairments of investments in marketable securities				
Financial expenses (income), net	(5,009)	—	(5, 009)	—
Total Adjustment	$ (6,044)	$ (992)	$ (5,320)	$ (302)
NON-GAAP net loss	$ 8,617	$6,615	$ 2,906	$ 1,806
NON-GAAP Basic and diluted net loss per Ordinary share	$ 0.77	$ 2.59	$ 0.24	$ 0.70

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,	
	2007	**2006**
ASSETS		
CURRENT ASSETS:		
Cash and cash equivalents	$ 13,590	$ 5,228
Short-term bank deposits	112	5,149
Marketable securities	8,251	386
Other accounts receivable and prepaid expenses	297	134
Deferred issuance costs	—	1,787
Total current assets	22,250	12,684
LONG-TERM INVESTMENTS	2 ,391	—
SEVERANCE PAY FUND	144	98
PROPERTY AND EQUIPMENT, NET	1,253	461
Total assets	$ 26,038	$ 13,243
LIABILITIES AND SHAREHOLDERS' EQUITY		
CURRENT LIABILITIES:		
Short-term bank loan, current maturities of capital lease and of long-term loan	$ 247	$ 48
Trade payables	516	745
Other accounts payable and accruals	1,102	750
Total current liabilities	1,865	1,543
LONG-TERM LIABILITIES:		
Long-term bank loan and capital lease	16	29
Deferred revenue	228	228
Accrued severance pay	324	344
Total Long-term Liabilities	568	601
COMMITMENTS AND CONTINGENT LIABILITIES		
SHAREHOLDERS' EQUITY:		
Share capital:	27	17
Additional paid-in capital	58,984	31,958
Other comprehensive income	86	3
Deferred stock-based compensation	—	(48)
Deficit accumulated during the development stage	(35,492)	(20,831)
Total shareholders' equity	23,605	11,099
Total liabilities and shareholders' equity	26,038	$ 13,243