ROSETTAGENOMICS™
Revealing Genomic Answers

# Favorable Data from Independent Study Comparing RosettaGX Reveal™ versus Afirma® to Accurately Classify Indeterminate Thyroid Nodules Were Presented at the 87th Annual Meeting of the American Thyroid Association

*Data demonstrate RosettaGX Reveal to have substantially higher specificity than Afirma at classifying benign nodules, with the potential to reduce substantially more unnecessary surgeries*

**PHILADELPHIA and REHOVOT, Israel (October 23, 2017)** – Rosetta Genomics Ltd. (NASDAQ: ROSG), a genomic diagnostics company that improves treatment decisions by providing timely and accurate diagnostic information to physicians, today announced favorable data from an independently-conducted study comparing RosettaGX Reveal™ ("Reveal) with current market leader, Afirma® Gene Expression Classifier (Afirma), to accurately classify Indeterminate Thyroid Nodules (ITNs) were presented on October 19, 2017 at the 87th Annual Meeting of the American Thyroid Association in Victoria, British Columbia. The RosettaGX Reveal microRNA classifier is a first-of-its-kind assay offering testing from a routinely prepared cytology slide that analyzes the exact cells used to make the original indeterminate diagnosis.

Data from the independently-conducted comparator study were presented by Wendy L. Sacks, M.D., Division of Endocrinology, Cedars-Sinai Medical Center, Los Angeles, California, in a poster titled, "RosettaGX Reveal Thyroid miRNA Classifier is a More Specific Test Than Afirma® Gene Expression Classifier."

In this retrospective study, 81 ITN samples tested with Afirma and surgical pathology results were collected from three centers: Cedars Sinai, Indiana University and Abington Jefferson Health. Reveal was performed in a blinded fashion on all samples.

Commenting on the results of the study, Carl D. Malchoff, M.D., Ph.D., Professor of Medicine, Division of Endocrinology and Metabolism, University of Connecticut Health Center, Farmington, Connecticut, noted, "This new independent data on the performance of Reveal in classifying ITNs that had previously been evaluated by the Afirma assay plus thyroidectomy is of potential clinical utility. In this study, the overall performance of the Reveal assay is superior to Afirma, especially in Hürthle cell

lesions. Since the Reveal assay is performed on cytopathology slides, it is convenient for both the patient and the clinician. Reveal has the potential to significantly reduce the number of unnecessary thyroid surgeries without requiring additional nodule aspirations."

Results from the study showed that Reveal correctly classified 64.2% of indeterminate cytology versus Afirma, which correctly classified 28.4% (p=0.000013). Of the 63 surgically benign cases, Reveal would have spared 60% of patients an unnecessary surgery (38/63), while Afirma would only have spared 10% (6/63), a 6-fold improvement.

In one particular subset of patients from this study, Reveal demonstrated even greater superiority. In the challenging category of correctly classifying Hürthle cell lesions, Reveal would have spared 65% of patients an unnecessary surgery (17/26) while Afirma would only have spared 4% (1/26), a greater than 15-fold improvement by Reveal compared to Afirma.

"We continue to be very encouraged by the growing body of clinical evidence highlighting the competitive advantages of Reveal in comparison to the market leader, Afirma. Importantly, data such as this independent comparator study show that using Reveal may significantly reduce the number of unnecessary surgeries given our assay's superior Negative Predictive Value in classifying ITNs which should be important for patients, clinicians and payers," said Kenneth A. Berlin, President and Chief Executive Officer of Rosetta Genomics.

"Favorable clinical data such as these, combined with Reveal's convenience and performance advantages, are strongly resonating with clinicians. We believe this will allow us to continue to win business from the competition and to expand Reveal sales into untapped parts of the $350 million ITN market in the U.S. as well outside the U.S.," added Mr. Berlin.

Afirma® is a registered trademark of Veracyte, Inc.

**About Rosetta Genomics**
Rosetta is pioneering the field of molecular diagnostics by offering rapid and accurate diagnostic information that enables physicians to make more timely and informed treatment decisions to improve patient care. Rosetta has developed a portfolio of unique diagnostic solutions for oncologists, urologists, endocrinologists, cytopathologists and other specialists to help them deliver better care to their patients. RosettaGX Reveal™, a Thyroid microRNA Classifier for classifying indeterminate thyroid nodules, as well as the full RosettaGX® portfolio of cancer testing services are commercially available through the Company's Philadelphia, PA- and Lake Forest, CA-based CAP-accredited, CLIA-certified labs.

**Forward-Looking Statement Disclaimer**

Various statements in this news release, including but not limited to statements relating to Reveal's ability to spare surgeries and its ability to win business from the competition and make inroads into untapped portions of the market 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 that we will require substantial additional funds to continue our operations and, if additional funds are not available, we may need to significantly scale back or cease our operations; we might not successfully complete the planned sale of our PersonalizeDx business; we have a history of losses and may never be profitable; if we are not able to obtain and enforce patent protection for our discoveries, our ability to develop and commercialize microRNA-based diagnostics and therapeutics could be harmed; if we become involved in patent litigation or other proceedings related to a determination of rights, we could incur substantial costs and expenses, substantial liability for damages or be required to stop our development and commercialization efforts; if third parties from which we license patent rights do not properly maintain or enforce the patents underlying such licenses, our competitive position and business prospects will be harmed; if we fail to comply with our obligations under any licenses or related agreements, we could lose license rights that may be necessary for developing microRNA-based diagnostics and therapeutics; if we fail to comply with the complex federal, state, local and foreign laws and regulations that apply to our business, we could suffer severe consequences that could materially and adversely affect our operating results and financial condition; if we do not comply with governmental regulations applicable to our CLIA-certified laboratories, we may not be able to continue our operations; any diagnostic tests that may be developed by us or others using our microRNA technology may be subject to regulatory approval, which can be lengthy, costly and burdensome; failure to comply with government laws and regulations related to submission of claims for our services could result in significant monetary damages and penalties and exclusion from the Medicare and Medicaid programs and corresponding foreign reimbursement programs; if we are found to have violated laws protecting the privacy or security of patient health information, we could be subject to civil or criminal penalties, which could increase our liabilities and harm our reputation or our business; if we are unable to expand sales of our diagnostic tests in the United States, it would have a material adverse effect on our business and financial condition; the intensely competitive biotechnology market could diminish demand for our tests and products; health insurers and other third-party payers may decide not to cover our diagnostic products or may provide inadequate reimbursement, which could jeopardize our commercial prospects; because of Medicare billing rules, we may not receive reimbursement for all tests provided to Medicare patients; failure to comply with federal and state anti-kickback and fraud and abuse laws could result in severe penalties; changes in healthcare policy, including legislation reforming the U.S. healthcare system, may have a material adverse effect on our financial condition and operations; the market may not be receptive to any diagnostic tests or therapeutic

products using our microRNA technology upon their commercial introduction; we are largely dependent upon our distributors for the success of commercialization of our current diagnostic tests; there is a substantial risk of product liability claims in our business and if we are unable to obtain sufficient insurance, a product liability claim against us could adversely affect our business; if we are unable to manage the challenges associated with our international operations, the growth of our business could be limited; the Israeli tax benefits that we are currently eligible to receive require us to meet several conditions and may be terminated or reduced in the future, which would increase our costs; we participated in programs supported by the Israeli Chief Scientist, which may restrict the transfer of know-how that we develop; and those risks more fully discussed in the "Risk Factors" section of Rosetta's most recently filed Annual Report on Form 20-F, as filed with the SEC. In addition, any forward-looking statements represent Rosetta's views only as of the date of this news release 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.

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