ROSETTAGENOMICS™
Revealing Genomic Answers

Clinical Utility Survey Demonstrates the Potential of RosettaGX Reveal™ to Significantly Reduce Unnecessary Thyroid Surgeries

Demonstrates 95% Negative Predictive Value (NPV) in a Population with High Malignancy Rate; Confirms High NPV Shown in Earlier Reveal Validation Study

Results Highlighted in Oral Presentation at the 3rd World Congress on Thyroid Cancer

PHILADELPHIA and REHOVOT, Israel (July 31, 2017) – Rosetta Genomics Ltd. (NASDAQ: ROSG), a genomic diagnostics company that improves treatment decisions by providing timely and accurate diagnostic information to physicians, announces that data highlighting the integration of the RosettaGX Reveal™ (Reveal) into clinical practice was presented in an Oral Presentation at the 3rd World Congress on Thyroid Cancer on July 30, 2017. The 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.

The oral presentation titled, "Incorporating the RosettaGX Reveal™ assay into clinical practice can significantly reduce the number of unnecessary surgeries associated with Indeterminate Thyroid Nodules (ITNs,)"was delivered by Nicole Massoll, M.D., Lab and Medical Director of Rosetta Genomics.

The presentation reviewed data on more than 1800 of the first patients tested with Reveal and demonstrated a high benign classification rate, which is important because the vast majority of ITNs are benign. Reveal was developed to identify these benign cases and help avoid unnecessary surgeries.

In addition, the presentation covered the results of a new survey of the use of Reveal in the clinical setting. The survey included responses from 40 physicians from 34 medical centers who utilize the Reveal assay in their clinical practices and reviewed their experience from 371 patients as it related to impact on patient management, decision to send patients to surgery or the extent of surgery, ease-of-use and overall feedback.

The survey results suggested that Reveal prevents unnecessary surgeries. In the pre-molecular era, the rate of surgery for ITNs was 74%[1] and the rate of surgery in this survey was 30.5%. In addition, 91% of the physicians who participated in the survey stated that Reveal changed the way they managed their patients with ITNs; 73% predicted that Reveal will decrease the number of patients sent to surgery; and 85% of patients with Reveal Benign results were able to avoid surgery.

Importantly, Reveal's performance in those cases from the survey in which there was surgical outcome demonstrated a negative predictive value (NPV) of 95% in a setting with a relatively

[1] Duick DS, et al. Thyroid (2012)

high prevalence of malignancy (35%). In addition, respondents gave a high rating on the assay's ease-of-use, particularly as Reveal is performed from a routinely prepared cytology smear or ThinPrep slide. Unlike other molecular tests, Reveal analyzes the exact cells used to make the indeterminate cytology diagnosis, without the need for additional passes, repeat FNA procedures, refrigeration or special shipping.

"We are delighted to have presented these compelling data suggesting that Reveal can prevent unnecessary surgeries for patients with an ITN before an audience of expert physicians that are dedicated to improving the diagnosis and treatment of thyroid cancer," stated Dr. Massoll. "These survey responses provide real world clinical experience in support of incorporating Reveal into clinical practice where it has shown to be a useful tool for further classification of ITNs with high sensitivity and high NPV even in settings where there is a high prevalence of thyroid cancer. Reveal's high NPV can give physicians the confidence to rely on a benign test result, thus allowing them to observe their patients in lieu of taking them to surgery. These results are similar to the results from Reveal's clinical validation study, further confirming the assay's high NPV."

"The positive results from this survey of physicians utilizing Reveal in real-world clinical practice are very encouraging and further support our strategy to increase our focus and investment in expanding the commercial, promotional and reimbursement efforts for Reveal to accelerate this differentiated product's growth. Data such as these provide a solid building block for our team in developing a compelling value proposition for the integration of Reveal in clinical practice as well as for gaining increased coverage by payers," said Kenneth A. Berlin, President and Chief Executive Officer of Rosetta Genomics. "Reveal's high NPV and ability to analyze the exact cells that were used to make the original ITN diagnosis are significant competitive advantages over other molecular ITN assays, which we expect will drive Reveal's adoption in ITN classification. We continue to believe that Reveal offers a significant opportunity for both short- and long-term revenue growth and these positive data support that thesis."

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 Endocrinologists, Cytopathologists, Otolaryngologists, Oncologists, and other specialists to help them deliver better care to their patients. RosettaGX Reveal™, a Thyroid microRNA Classifier for the evaluation of cancer in 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 release concerning Rosetta's future expectations, plans and prospects including, but not limited to statements relating to increasing our focus and investment in expanding the commercial, promotional and reimbursement efforts for Reveal to accelerate this differentiated product's growth, developing a compelling value proposition for the integration of RosettaGX Reveal in clinical practice as well as for gaining increased coverage by payers, Reveal offering a significant opportunity for both short- and long-term revenue growth, driving Reveal's adoption in ITN classification and statements containing the words "expect," "believe," "will," "may," "should," "project," "estimate," "anticipated," "scheduled," and like expressions, and the negative thereof, 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 risks and uncertainties, including, but are not limited to the following: 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 have a history of losses and may never be profitable; 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; if we are unable to find profitable strategic alternatives for our PersonalizeDx diagnostic testing and services business, 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; the market may not be receptive to any diagnostic tests or therapeutic products using our microRNA technology; we currently have limited sales, marketing or distribution experience and may in the future depend significantly on third parties to commercialize microRNA-based diagnostic tests or therapeutic products we may develop; we are largely dependent upon our distributors for the success of commercialization of our current diagnostic tests; 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; 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; we contract with a single manufacturer for the purchase of microarray chips for certain tests, and the failure of this manufacturer to supply sufficient quantities on a timely basis could have a material adverse effect on our business; and other risk factors discussed under the heading “Risk Factors” in 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 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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