

Rosetta Genomics and Moffitt Cancer Center Enter into Agreement to Advance Development of microRNA-based Cancer Diagnostic

Enhances the development of Rosetta's thyroid neoplasia assay

PRINCETON, N.J. and REHOVOT, Israel (June 9, 2014) TAMPA, Fla. – Rosetta Genomics Ltd. (NASDAQ: ROSG), a leading developer and provider of microRNA-based molecular diagnostics and therapeutics, announces that the Company has entered into an agreement with Moffitt Cancer Center to advance the development and commercialization of Rosetta's thyroid neoplasia assay.

Under the agreement, Rosetta will work with Marino Leon, M.D., associate member of the Department of Anatomic Pathology at Moffitt.

An estimated 4-7 percent of the general population develops nodules in the thyroid that can be felt on examination, though fewer than 10 percent are malignant. A fine needle aspiration (FNA), a non-surgical procedure used to obtain tissue for analysis by a pathologist, is the standard technique for detecting cancer. It is estimated that nearly 500,000 FNAs are performed each year in the United States and approximately 740,000 are performed annually in Europe. Interpretation of FNA samples is not always conclusive, and up to 30 percent of samples have indeterminate results.

"This agreement is a significant step forward in the development of our key pipeline project, an assay for the differential diagnosis of indeterminate thyroid FNAs. We believe that working with experts like Dr. Leon and others at Moffitt will significantly enhance and accelerate the development of our thyroid neoplasia assay," stated Kenneth A. Berlin, President and Chief Executive Officer. "Results from our initial studies demonstrated that microRNA expression levels can differentiate malignant nodules from benign nodules, and also demonstrated our ability to extract and profile microRNAs from thyroid FNAs in various sample types and in a way consistent with common clinical practices. This agreement with Moffitt will help us further advance the development of this important assay, and should allow us to achieve our goal of launching this important assay prior to the end of 2015."

"Many patients with repeated indeterminate thyroid FNA results are sent to surgery as a precaution, some of these cases are benign lesions. This exposes patients to unnecessary surgical risk and costs the system hundreds of millions of dollars," noted Dr. Leon. "Rosetta is developing a thyroid neoplasia assay that has the potential to improve clinical management in a cost-effective manner by reducing the number of unnecessary surgeries. This is in keeping with Moffitt's commitment to support innovations that enhance patient care and outcomes."

About Rosetta Cancer Testing Services

Rosetta Cancer Tests are a series of microRNA-based diagnostic testing services offered by Rosetta Genomics. The Rosetta Cancer Origin Test™ can accurately identify the primary tumor type in primary and metastatic cancer including cancer of unknown or uncertain primary (CUP). Rosetta Mesothelioma Test™ diagnoses mesothelioma, a cancer connected to asbestos exposure. The Rosetta Lung Cancer Test™ accurately identifies the four main subtypes of lung cancer using small amounts of tumor cells. The Rosetta Kidney Cancer Test™ accurately classifies the four most common kidney tumors: clear cell renal cell carcinoma (RCC), papillary RCC, chromophobe RCC and oncocytoma. Rosetta's assays are designed to provide objective diagnostic data; it is the treating physician's responsibility to diagnose and administer the appropriate treatment. In the U.S. alone, Rosetta Genomics estimates that 200,000 patients a year may benefit from the Rosetta Cancer Origin Test™, 60,000 from the Rosetta Mesothelioma Test™, 65,000 from the Rosetta Kidney Cancer Test™ and 226,000 patients from the Rosetta Lung Cancer Test™. The Company's assays are offered directly by Rosetta Genomics in the U.S., and through distributors around the world. For more information, please visit www.rosettagenomics.com. Parties interested in ordering the test can contact Rosetta Genomics at -215-382-9000 ext. 309.

About Rosetta Genomics

Founded in 2000, Rosetta'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 patent position and proprietary platform technologies, Rosetta is working on the application of these technologies in the development and commercialization of a full range of microRNA-based diagnostic tools and therapeutics. Rosetta currently commercializes a full range of microRNA-based molecular diagnostics. Rosetta's cancer testing services are commercially available through its Philadelphia-based CAP-accredited, CLIA-certified lab. For more information please visit www.rosettagenomics.com.

About Moffitt Cancer Center

Located in Tampa, Florida, Moffitt is one of only 41 National Cancer Institute-designated Comprehensive Cancer Centers, a distinction that recognizes Moffitt's excellence in research, its contributions to clinical trials, prevention and cancer control. Moffitt is the No. 1 cancer hospital in Florida and has been listed in U.S. News & World Report as one of "America's Best Hospitals" for cancer since 1999. With more than 4,200 employees, Moffitt has an economic impact on the state of nearly \$2 billion. For more information please visit www.moffitt.org.

Forward-Looking Statement Disclaimer

Various statements in this release concerning Rosetta's future expectations, plans and prospects, including without limitation, Rosetta's Cancer of Origin Test™, Rosetta's development or commercialization of molecular diagnostics and specifically its development of a diagnostic for Thyroid neoplasia, the timeline for the development of Rosetta's potential molecular diagnostic assays and specifically its development of a diagnostic for Thyroid neoplasia, the market acceptance of Rosetta's cancer testing services, particularly the Rosetta Cancer Origin Test™ and Rosetta's development of personalized medicine products and services, 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 in the "Risk Factors" section of Rosetta's Annual Report on Form 20-F for the year ended December 31, 2012 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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