

Rosetta Genomics Announces Selection of First Pilot Project Grant under Strategic Alliance with Moffitt Cancer Center

Project to advance studies on the role and molecular mechanism of microRNAs in ibrutinib resistance in Mantle Cell Lymphoma for development of microRNA-based predictive biomarkers

PRINCETON, N.J. and REHOVOT, Israel (May 26, 2015) – Rosetta Genomics Ltd. (NASDAQ: ROSG), a leading developer and provider of microRNA-based molecular and other diagnostics, announces the selection of the first project grant under its strategic alliance with Moffitt Cancer Center. The funded project is titled, “miRNAs as Determinants and Predictors of Ibrutinib Resistance in Mantle Cell Lymphoma (MCL).” The project will be led by Jianguo Tao, M.D., Ph.D., a renowned hematopathologist and physician-scientist at the Molecular and Chemical Biology Program at Moffitt, and Bijal Shah, M.D., an oncologist in the Experimental Therapeutic Program at Moffitt.

MCL is an aggressive B-cell lymphoma. Ibrutinib, a blockbuster pharmaceutical marketed by Pharmacyclics under the brand name of IMBRUVICA®, is a novel Bruton's tyrosine kinase (BTK) inhibitor that received U.S. Food and Drug Administration approval for the treatment of MCL in 2014, with high response rates reported in patients with MCL. However, many MCL patients who initially show a partial or complete response to ibrutinib, eventually develop ibrutinib-acquired drug resistance accompanied by fulminant progression and accelerated mortality.

Studies conducted by Drs. Tao and Shah have suggested that microRNAs play a role in the development of resistance to ibrutinib. The goal of this funded project is to further explore the role and underlying molecular mechanism of microRNAs in ibrutinib resistance in MCL, for development of microRNA-based predictive biomarkers for ibrutinib therapy, as well as for a rational design to overcome drug resistance.

Commenting on the project, Dr. Tao noted, “We have previously identified a decreased expression of a set of tumor suppressor microRNAs that drive MCL drug resistance and aggressive progression through negative regulation of PI3K and other survival pathways. Consequently, we believe these microRNAs represent ideal targets and biomarkers due to their role not only in supporting MCL cell growth, but also facilitating drug resistance.”

“We are very excited about the potential of this project as the earlier work conducted by Drs. Tao and Shah puts us in a unique position to further explore the role and underlying molecular mechanism of microRNAs in ibrutinib resistance in MCL,” stated Kenneth A. Berlin, President and Chief Executive Officer of Rosetta Genomics. “We believe the new knowledge to be generated by this project would speed up the development of microRNA-based predictive biomarkers for ibrutinib therapy for the benefit of MCL and potentially other patients.”

“We are excited to have selected this first project under our alliance with Rosetta Genomics. Moffitt is committed to bringing innovative oncology diagnostics to patients in order to optimize clinical outcomes and this project for the development of predictive biomarkers for

ibrutinib therapy in the treatment of MCL patients exemplifies these goals as the development of drug resistance in these patients is life-threatening,” said Anthony Magliocco, M.D., chair of the Anatomical Pathology Program and executive director of the Morsani Molecular Diagnostics Laboratory at Moffitt.

About the Rosetta Genomics/Moffitt Cancer Center Strategic Alliance

The three-year alliance brings together the resources and talents of Moffitt, a National Cancer Institute-designated Comprehensive Cancer Center, with those of Rosetta Genomics, an industry-leading developer of microRNA-based diagnostics, to stimulate new projects and collaborations for the development of diagnostics in areas of unmet medical need. Rosetta is providing funding for Moffitt investigator-initiated projects that align with Rosetta’s strategic priorities and has the rights to license intellectual property that results from such projects on pre-negotiated terms.

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 top-ranked cancer hospital in the Southeast and has been listed in U.S. News & World Report’s “Best Hospitals” for cancer care since 1999. With more than 4,500 employees, Moffitt has an economic impact in the state of nearly \$1.6 billion. For more information, please visit MOFFITT.org.

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). 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. In the U.S. alone, Rosetta Genomics estimates that 200,000 patients a year may benefit from the Rosetta Cancer Origin Test™, 62,000 from the Rosetta Kidney Cancer Test™ and 222,000 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. In addition to its proprietary products, the Company markets the Rosetta Genomics PGxOne™ and EGFR and KRAS tests for Admera Health. With the recent acquisition of PersonalizeDx, the company now offers a broader menu of molecular and other assays for bladder, lung, prostate and breast cancer patients. For more information, please visit www.rosettagenomics.com. Parties interested in ordering any of these tests can contact Rosetta Genomics at (215) 382-9000 ext. 309.

About Rosetta Genomics

Rosetta develops and commercializes a full range of microRNA-based molecular diagnostics. 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. PersonalizeDx’s core FISH, IHC and PCR-based testing capabilities and partnerships in oncology and urology provide additional content and platforms that complement the Rosetta offerings. Rosetta’s and PersonalizeDx’s cancer testing services are commercially available through the Philadelphia, PA- and Lake Forest, CA-based CAP-accredited, CLIA-certified labs, respectively.

Forward-Looking Statement Disclaimer

Various statements in this release concerning Rosetta's future expectations, plans and prospects, including without limitation, statements relating to the cooperation between Rosetta Genomics and Moffitt Cancer Center, the ability of microRNA's to act as biomarkers for drug resistance, that any knowledge gained through the research, if gained, speeding up the development of microRNA-based predictive biomarkers for ibrutinib therapy, and that the research benefiting MCL and potentially other patients, 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, 2014 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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