News Release

Rosetta Genomics Announces Key Patent Allowances in U.S. and Europe

Broad U.S. patent for cancer therapeutics relating to the p53 gene, which plays a key role in more than 50% of all cancers

First European patent for a microRNA expands protection for its Cancer of Unknown Primary testing franchise

PRINCETON, N.J. and REHOVOT, Israel (February 17, 2015) – Rosetta Genomics Ltd. (NASDAQ: ROSG), a leading developer and provider of microRNA-based molecular diagnostics, today announced that the Company received a Notice of Allowance from the United States Patent and Trademark Office for a patent claiming the use of miR-34a for the treatment of p53-associated cancers. In addition, the Company announced its first allowance from the European Patent Office for a patent claiming the specific composition for miR-451, a miR relating to the Company's Cancer of Unknown Primary (CUP) testing franchise.

The allowed claims for the U.S. Patent Application No. 14/280,822 entitled "Composition and Methods For Modulating Cell Proliferation and Cell Death" cover a core element of Rosetta Genomics' microRNA technology in the development of cancer therapeutics relating to cancers associated with the p53 gene. This patent is broader than the previous patent issued last year in that it covers the treatment of *any* p-53 associated cancer using miR-34a or its variants, delivered by any kind of formulation.

The patent is jointly owned with Yeda Research and Development, the technology transfer company of the Weizmann Institute of Science in Rehovot, Israel.

The p53 protein is a sequence-specific transcription factor that functions as a major tumor suppressor in mammals. Inactivation of the p53 tumor-suppressor function is one of the most frequent genetic alterations in human cancer, and more than half of all human tumors carry p53 gene mutations within their cells. In addition, mutations in p53 have been correlated with clinical aggressiveness.

"p53 plays an important role in many cancers. Consequently, a therapeutic based on mimicking miR-34a that can potentially overcome some of the negative effects of mutations in this important tumor suppressor holds significant promise," commented E. Robert Wassman, M.D., Rosetta Genomics' Chief Medical Officer.

The allowed claims for European Patent Application Number 05766834.5 entitled, "MicroRNAs and uses thereof" cover miR-451 and its complement, as well as a probe comprising the claimed

miR. Therapeutic and diagnostic uses of the miR and/or the probe are also covered in the allowed claims.

"We continue to fortify our leading intellectual property position in microRNA technology as well as microRNAs themselves and these new patents expand, strengthen and complement our growing portfolio of over 40 patents worldwide," noted Kenneth A. Berlin, President and Chief Executive Officer of Rosetta Genomics. "Patents such as this recent one in the U.S. are important as they not only protect key elements of our microRNA technology to develop a variety of oncology treatments that are associated with the p53 tumor suppressor, but they also offer multiple opportunities for monetization through potential drug development partnerships or other licensing arrangements. Separately, this recent European composition of matter patent strengthens and expands the patent protection for our CUP testing franchise and further establishes our global leadership position in microRNA technology."

"Importantly, both of these patents support our broader oncology strategy to develop and commercialize microRNA-based diagnostics, therapeutics and biomarkers on a global basis in order to enhance clinicians' ability to identify and treat cancers," concluded Mr. Berlin.

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

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. Rosetta's cancer testing services are commercially available through its Philadelphia-based CAP-accredited, CLIA-certified lab.

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 or therapeutics, the market acceptance of Rosetta's cancer testing services, particularly the Rosetta Cancer Origin Test™, Rosetta's development of personalized medicine products and services, the reproducibility, robustness and accuracy of Rosetta's microRNA technology and its ability to help enable personalized medicine and optimize treatment, the expansion of payor coverage of Rosetta's testing services, and the amount of people covered for the Rosetta testing 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, 2013 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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