News Release

Rosetta Genomics Initiates Post-Marketing Registry Study of its Cancer Origin Test

Global study to evaluate the test's impact on treatment decisions and outcomes when therapy is directed at a cancer's origin

PRINCETON, N.J. and REHOVOT, Israel (September 3, 2014) – Rosetta Genomics Ltd. (NASDAQ: ROSG), a leading developer and provider of microRNA-based molecular diagnostics and therapeutics, announces the initiation of the Rosetta **C**ancer **O**rigin Test™ **P**atient **R**egistry study (COPR), a two-part global registry attempting to evaluate the impact of the Cancer Origin Test on treatment decisions in patients diagnosed with metastatic cancers or Cancers of Unknown or Uncertain Primary (CUP). COPR will also attempt to track treatments selected, duration of response to therapies, survival and other clinically relevant information including additional diagnostic testing performed.

COPR will collect data on clinical outcomes from approximately 400 patients diagnosed with CUP and/or metastatic cancer of unknown origin. MedPanel, LLC will conduct COPR on behalf of Rosetta Genomics under Investigational Review Board (IRB) approval and full Health Insurance Portability and Accountability Act (HIPAA) compliance at multiple clinical sites worldwide. The Company expects that initial data from COPR will be available in the second half of 2015, and that it will continue to enroll patients for three to four years with up to two years of follow-up on survivors.

The analytical and diagnostic performance of the Cancer Origin Test has been demonstrated in multiple studies, and the clinical value to individual patients has been repeatedly observed. This incremental improvement in diagnostic performance by molecular profiling has been acknowledged by the Agency for Healthcare Research and Quality (AHRQ) and National Comprehensive Cancer Network (NCCN), as well as by favorable Local Coverage Determinations by Medicare Administrative Contractors.

"CUP is a heterogeneous state and our current understanding suggests that selection of specific treatment plans that are guided by molecular profiles for specific patients are potentially the most efficacious. We expect this registry study will confirm the critical link between diagnostic accuracy and optimal treatment, which is the cornerstone of personalized medicine," stated E. Robert Wassman, M.D., Chief Medical Officer at Rosetta Genomics.

"This registry could allow us to gather important patient data to compare the impact of treatment in specific subsets of CUP patients. Importantly, COPR could clarify the outcomes for these patients when treatment is directed at the origin of their cancer using currently accepted optimal therapies" noted Kenneth A. Berlin, President and Chief Executive Officer of Rosetta Genomics. "The results from COPR are expected to underscore the value proposition for the

Cancer Origin Test, and to provide real-world data in support of continued adoption and reimbursement."

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.

Forward-Looking Statement Disclaimer

Various statements in this release concerning Rosetta's future expectations, plans and prospects, including without limitation, statements relating to the analytical and diagnostic performance of Rosetta's Cancer Origin Test, the COPR confirming a link between diagnostic accuracy and optimal treatment, the COPR clarifying outcomes for patients when treatment is directed at the origin of their cancer using currently accepted optimal therapies, the availability of data from the COPR by the second half of 2015 and that the COPR's results will underscore the value proposition for the Cancer Origin Test, 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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