Contacts:
Personal Genome Diagnostics
Antony Newton
Chief Commercial Officer
410 849-9189
anewton@personalgenome.com

Media:
BLL Partners, LLC
Barbara Lindheim
212 584-2276
blindheim@bllbiopartners.com

PERSONAL GENOME DIAGNOSTICS LICENSES TECHNOLOGY FROM JOHNS HOPKINS UNIVERSITY FOR IMPROVED DETECTION OF CANCER MUTATIONS IN CIRCULATING DNA

—PGDx Is Routinely Providing "Liquid Biopsy" Genomic Testing to Cancer Drug Developers Using PARE and Other Technologies Exclusively Licensed from John Hopkins—
—PGDx Approach Uniquely Allows Ultrasensitive Detection of Amplifications and Rearrangements in Circulating Cell-Free Tumor DNA—

BALTIMORE, MD, January 21, 2014 – Personal Genome Diagnostics Inc. (PGDx), a provider of advanced cancer genome analysis and testing services, today reported it has licensed exclusive rights to a technology known as PARE from Johns Hopkins University that is enabling the company to successfully analyze cell-free tumor DNA circulating in patients' blood. PGDx is now using PARE, other proprietary technologies such as Digital Karyotyping (DK), and the expertise and know-how of its scientists to routinely conduct genomic testing using samples from blood and other bodily fluids, thereby avoiding the need for tumor biopsies.

PARE (Personalized Analysis of Rearranged Ends) technology is an ultrasensitive technique that enables whole genome identification of changes in the tumor-specific DNA that is shed into the circulation of cancer patients[1, 2]. Unlike other approaches, which can only detect point mutations in circulating tumor DNA, PARE also detects structural changes, including the genomic amplifications and rearrangements that are critical for guiding cancer treatment. PARE has already been successfully used to detect important cancer mutations such as amplifications in ERBB2 (HER2/neu), MET and CDK6 in the blood of cancer patients.

New cancer drugs are increasingly targeted to specific genomic features of tumors. However, most patients develop resistance to the therapy as new genetic alterations arise. Conducting genomic testing to identify these new mutations is critical for understanding the mechanism of action of these anti-cancer agents and will be key in selecting the optimal drugs for patients as therapy proceeds. Analysis of cell-free tumor-derived DNA bypasses the need to conduct invasive, painful and costly tumor biopsies for these analyses. Use of circulating tumor DNA also has the potential to identify more genetic changes, since these alterations are often detectable in only some portions of the tumor and there may be multiple tumors present. PGDx's success in conducting these analyses using circulating tumor DNA from easily-obtained blood samples makes personalized treatment far more feasible.

An example of the power of PARE is its role in enabling new discoveries about cancer drug resistance. Two recent publications[3,4], whose co-authors include PGDx co-founders and Johns Hopkins researchers Dr. Luis Diaz and Dr. Victor Velculescu, are the first to use genome-wide analyses of cell-free circulating DNA to identify newly-acquired genetic alterations associated with resistance to targeted therapies. In these studies, researchers used PARE to identify novel mechanisms of acquired drug resistance from the blood of colorectal cancer patients being treated with EGFR-targeted therapy, showing that amplification of a gene known as MET plays an important role. The high sensitivity achieved in these studies enabled identification of the new alteration before any clinical signs of drug resistance were evident, providing early warning that a change in therapy was needed.

"Our team's success in using cell-free circulating DNA to identify both known and novel sources of genetic resistance to cancer therapy is a promising development," noted Mark Sausen, PhD, Director of Research & Development at PGDx and co-author of the two studies. "PARE's ability to go beyond identification of point mutations to detect structural changes in the genome, along with the ultra-high sensitivity of our approach, are important advances as evidenced by the fact that we were able to detect MET alterations, which are especially difficult to identify, before any clinical signs of resistance had appeared. By eliminating

the need for repeated biopsies, use of circulating tumor DNA to inform and monitor cancer treatment should facilitate the development of new cancer drugs and enable broader adoption of personalized cancer therapy."

Antony Newton, Chief Commercial Officer of PGDx, commented, "Our success in routinely using cell-free circulating DNA from cancer patients to conduct advanced genomic analyses is a prime example of how our ongoing access to world-class genomics research, proprietary technologies and clinical expertise is benefiting our growing customer base of drug developers, while accelerating new drug R&D."

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About Personal Genome Diagnostics

Personal Genome Diagnostics (PGDx) provides advanced cancer genome analyses to oncology researchers, drug developers, clinicians and patients. The company uses advanced genomic methods and its deep expertise in cancer biology to identify and characterize the unique genomic alterations in tumors. PGDx's proprietary methods for genome sequencing and analysis are complemented by its extensive experience in cancer genomics and clinical oncology. The founders of PGDx, Luis Diaz, MD, and Victor Velculescu, MD, PhD, are internationally recognized leaders in cancer genomics at Johns Hopkins University who have extensive experience in the practical application of advanced genomic technologies to drug development and clinical practice. PGDx's CLIA-certified facility provides personalized cancer genome analyses to patients and their physicians. For more information, visit www.personalgenome.com.

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