

**PERSONAL GENOME DIAGNOSTICS LICENSES RIGHTS TO MICROSATELLITE INSTABILITY (MSI) TESTING TECHNOLOGY FROM JOHNS HOPKINS UNIVERSITY TO INFORM IMMUNOTHERAPY**

*--Patent Pending Johns Hopkins Technology Powers MSI Testing to Be Included in All PGDx Pan Cancer Tissue Assays, Including PlasmaSELECT™ 64 and the PROGENEUS™ Solution that Enables Advanced Cancer Testing by Local NGS Labs--  
--Seeking FDA Clearance for In Vitro Diagnostic Use--*

**BALTIMORE, MD, October 20, 2016** – Personal Genome Diagnostics Inc. (PGDx), a leading provider of advanced cancer genome testing products and services, today announced that it has licensed rights to patent pending microsatellite instability (MSI) testing technology from Johns Hopkins University to help identify candidates for immune checkpoint inhibition. PGDx already includes the MSI technology in its pan cancer genomic tissue assays for patients and drug developers, and will be incorporating it into the recently launched PlasmaSELECT™ 64 non-invasive pan cancer assay. The company also includes the MSI technology in its PROGENEUS™ technology transfer enterprise solution, which enables advanced cancer genomic testing by local and regional laboratories that have next-generation sequencing (NGS) capabilities.

PGDx has exclusive rights to the MSI detection technology through mid-2017 and shared rights with another molecular diagnostics provider thereafter. PGDx also has the sole rights to sublicense the MSI detection technology. Further terms of the agreement were not disclosed.

Microsatellite instability occurs when cells have a defect in the ability to repair the mistakes that naturally occur when the cellular DNA is copied. This condition is known as impaired mismatch repair (MMR). Tumor cells with MSI and impaired MMR typically have many more mutations than other tumor cells, and they are associated with a greater likelihood of successful treatment with new immuno-oncology drugs such as the PD-1 checkpoint inhibitors. Accurately measuring MSI is therefore important for helping to determine which cancer patients might benefit from immuno-oncology treatments. But MSI detection technology has generally only been available for tissue-based samples, not for liquid biopsy approaches that analyze circulating tumor DNA in patient plasma.

“The growing prominence of immuno-oncology treatments for cancer highlights the therapeutic importance of determining whether patients have microsatellite instability present in their tumors,” said Doug Ward, CEO of PGDx. “We therefore welcome the opportunity to expand use of the Johns Hopkins MSI testing technology in our product line. This is especially timely as we advance plans for FDA review and clearance of our assays.”

Neil Veloso of Johns Hopkins Technology Ventures commented, “Johns Hopkins is a leader in cancer genomics and PGDx exemplifies the ideal licensee for university technology.”

PGDx was an early leader in this field, presenting the results of a study on MMR and immune checkpoint blockade at the 2015 ASCO Annual Meeting: [PD-1 Blockade in Tumors with Mismatch Repair Deficiency](#). In the study, researchers found that colorectal cancer patients who had tumors with MSI/MMR deficiency had a much greater therapeutic response to the PD-1 blocker pembrolizumab. PGDx’s analyses showed that cancer patients with the MSI/MMR deficiency on average had more than 20 times as many mutations in their tumors as similar patients who were not MMR deficient. This finding is consistent with other studies showing that PD-1 blockers are most effective against tumors containing many mutations. This study was published in the [New England Journal of Medicine](#).

PGDx offers a complete range of cancer genome analysis tools, including exome and targeted approaches for tissue specimens, targeted approaches for plasma samples and a variety of custom tissue and plasma-based options designed to address the specific research needs of cancer researchers and drug developers. It was established in 2010 by researchers from Johns Hopkins University who are pioneers in cancer genome sequencing and liquid biopsy technologies. Under the leadership of founders Drs. Luis Diaz and Victor Velculescu, the company has achieved consistent growth by successfully commercializing novel

clinical and investigational products and services for researchers, drug developers, molecular testing laboratories and physicians and patients. PGDx's service offerings for researchers and testing labs are complemented by the clinical services it provides through its CLIA-certified laboratory.

**About Personal Genome Diagnostics**

Personal Genome Diagnostics (PGDx) advances the frontiers of cancer medicine through innovative genomic technologies for oncology researchers, drug developers, clinicians and patients. The expert team at PGDx draws on a deep understanding of cancer biology, extensive experience in cancer genomics and clinical oncology, and the company's distinctive technologies. These novel technologies precisely identify and characterize unique genomic alterations in tumors. PGDx is working toward broad patient access to its genomic approaches, through a CLIA-certified facility providing comprehensive genomic services, as well as its PROGENEUS™ technology transfer solution and in vitro diagnostic products to enable other molecular laboratories to easily internalize testing. For additional information, visit [personalgenome.com](http://personalgenome.com).

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