

Bionano Genomics Announces Issuance of US Patent for Targeted Labeling Strategy to Complement Whole Genome Analysis Using Optical Genome Mapping

May 4, 2021

SAN DIEGO, May 04, 2021 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (Nasdaq: BNGO), announced that the United States Patent and Trademark Office will issue US Patent No. 10,995,364 today, May 4, 2021. The patent, titled "METHODS AND DEVICES FOR SINGLE-MOLECULE WHOLE GENOME ANALYSIS" covers methods for labeling DNA molecules with one or more sequence-specific probes and detecting the signal from these probes after the DNA is linearized in nanochannels. The claimed methods of this patent can improve the fine mapping of disease-causing variants, identify novel sequences such as virus integrations, and even detect single-basepair changes.

Optical genome mapping (OGM) with the Saphyr® System already provides industry-leading detection of structural variants (SVs) throughout the genome and is used in a wide range of disease applications, including cancer and genetic diseases. This patent covers methods for labeling of DNA molecules using sequence-specific probes, which can be used for the more precise characterization of specific parts of the genome in addition to whole-genome analysis. The custom probes can be used to map the limited parts of the genome that are inaccessible to standard labeling methods, such as the centromeres, can help identify highly specific sequences, such as the integration of viral DNA, and can improve the fine mapping of important pathogenic variants such as repeat expansions. Additionally, the use of highly sequence-specific probes allows Saphyr to detect single nucleotide variants in addition to SVs, which currently requires the use of an additional technology such as whole genome sequencing or genotyping arrays.

"Bionano continues to develop proprietary methods and protect our unique intellectual property," comments Erik Holmlin, PhD, CEO of Bionano Genomics. "The patent issued today provides further protection of methods to characterize single DNA molecules and strengthens Bionano's global patent portfolio that includes 67 issued patents across 14 patent families and numerous patent applications. This novel labeling method is complementary to our whole-genome mapping approach and allows us to provide a higher level of detail for those diseases or applications where it is needed, all the way to the single basepair level. We continue to innovate and add capabilities to the Saphyr system as we strive to make it the most powerful and cost-effective tool to study the variants in the genome that drive cancer and genetic disease."

About Bionano Genomics

Bionano is a genome analysis company providing tools and services based on its Saphyr system to scientists and clinicians conducting genetic research and patient testing, and providing diagnostic testing for those with autism spectrum disorder (ASD) and other neurodevelopmental disabilities through its Lineagen business. Bionano's Saphyr system is a research use only platform for ultra-sensitive and ultra-specific structural variation detection that enables researchers and clinicians to accelerate the search for new diagnostics and therapeutic targets and to streamline the study of changes in chromosomes, which is known as cytogenetics. The Saphyr system is comprised of an instrument, chip consumables, reagents and a suite of data analysis tools. Bionano provides genome analysis services to provide access to data generated by the Saphyr system for researchers who prefer not to adopt the Saphyr system in their labs. Lineagen has been providing genetic testing services to families and their healthcare providers for over nine years and has performed over 65,000 tests for those with neurodevelopmental concerns. For more information, visit www.bionanogenomics.com or www.lineagen.com.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as "may," "will," "expect," "plan," "anticipate," "estimate," "intend" and similar expressions (as well as other words or expressions referencing future events, conditions or circumstances) convey uncertainty of future events or outcomes and are intended to identify these forward-looking statements. Forward-looking statements include statements regarding our intentions, beliefs, projections, outlook, analyses or current expectations concerning, among other things: the anticipated benefits and improvements resulting from the method described in this patent, including with respect to the Saphyr system; and the execution of our strategy. Each of these forward-looking statements involves risks and uncertainties. Actual results or developments may differ materially from those projected or implied in these forward-looking statements. Factors that may cause such a difference include the risks and uncertainties associated with: the impact of the COVID-19 pandemic on our business and the global economy; general market conditions; changes in the competitive landscape and the introduction of competitive products; changes in our strategic and commercial plans; our ability to obtain sufficient financing to fund our strategic plans and commercialization efforts; the ability of medical and research institutions to obtain funding to support adoption or continued use of our technologies; the loss of key members of management and our commercial team; and the risks and uncertainties associated with our business and financial condition in general, including the risks and uncertainties described in our filings with the Securities and Exchange Commission, including, without limitation, our Annual Report on Form 10-K for the year ended December 31, 2020 and in other filings subsequently made by us with the Securities and Exchange Commission. All forward-looking statements contained in this press release speak only as of the date on which they were made and are based on management's assumptions and estimates as of such date. We do not undertake any obligation to publicly update any forward-looking statements, whether as a result of the receipt of new information, the occurrence of future events or otherwise.

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