



Bionano's Optical Genome Mapping for Acute Lymphoblastic Leukemia Subjects at the University Hospitals Leuven, Belgium, Has Faster Turnaround Time, Higher Success Rates and Lower Cost per Sample Compared to Traditional Methods

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SAN DIEGO, July 19, 2021 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (Nasdaq: BNGO) announces a summary of the results obtained by the University Hospitals Leuven, Belgium with optical genome mapping (OGM) with Bionano's Saphyr[®] system. An assay was developed for whole genome analysis of acute lymphoblastic leukemia (ALL) subjects which, relative to traditional methods, resulted in a workflow with significantly faster turnaround time, higher success rates, and lower cost per sample. The key benefits of their OGM-based assay, as presented by Dr. Barbara Dewaele, are summarized below:

OGM Benefits	Summary of Findings Presented
Faster Turnaround Time	• Turnaround time, for sample to reportable result, went from 4 weeks with traditional methods to only 1 week using OGM
Workflow Simplification and Assay Consolodation	• Reduction in the number of cumbersome and expensive FISH experiments from 10 to only 1 per patient, eliminating the use of MLPA and most PCR tests, and reducing the number of samples analyzed via karyotyping
Less Hands-On Time	• Significant reduction in hands-on time for laboratory personnel and the time necessary for data analysis using OGM relative to traditional methods
Higher Assay Success Rates	• Higher assay success rates versus traditional methods since OGM is performed directly from the sample source, using DNA extraction, without the additional need for laborious cell culture as required for karyotyping
Higher Yield of Pathogenic Findings	• 5% of cases yielded additional pathogenic findings using OGM, which would be missed by traditional methods alone
Improved Outcomes	• An additiional 5% of cases resulted in an improvement in treatment recommendation from enhanced prognostic stratification using OGM relative to traditional methods
Lower Cost per Sample	• Reduction in cost by 50% per sample by using OGM instead of the combination of traditional methods

In a plenary talk at the European Cytogenomics Conference (ECA), Dr. Barbara Dewaele, supervisor of the Routine Diagnostics Laboratory for Genetics of Hematological Malignancies, announced results of implementing an assay they developed with Bionano's Saphyr system for ALL patients at the largest academic hospital in Belgium. The results are the outcome of a comparative study of 40 ALL subjects whose samples were analyzed by OGM and by a workflow comprising traditional methods, including karyotyping, fluorescent *in-situ* hybridization (FISH), multiplexed ligation polymorphism assay (MLPA) and polymerase chain reaction. OGM showed 100% concordance with the traditional methods with no false positives. Dr. Dewaele summarized that their hospital plans to develop more OGM-based assays for other types of leukemias. They have already developed one for the muscle disease facioscapulohumeral muscular dystrophy (FSHD).

Erik Holmlin, PhD, CEO of Bionano Genomics commented: "The work completed by Dr. Dewaele and her team in developing an OGM assay for ALL subjects and comparing it to traditional methods has generated a dataset that makes a compelling case for the value of using OGM with our Saphyr system. They have implemented this assay and it has been evaluated and accredited as part of a novel workflow that transforms the way genome analysis for ALL happens in their institution and paves the way for new assays, including one developed for FSHD."

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 significance of Bionano OGM data discussed in this press release, including the potential for such data to lead to improved treatment options, patient stratification, or medical care; Bionano OGM's superiority in genomic analysis in certain applications as compared to traditional techniques; the benefits of the Saphyr system relative to traditional cytogenetic testing methods; our assessments regarding market opportunities; and the execution of Bionano's 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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