Bionano Genomics Announces Publication of a New Study Using OGM Combined with Multiple Analytical Methods Including Single-Cell Analysis as a Comprehensive Molecular Strategy to Characterize the Genomic Variation in B-cell Acute Lymphoblastic Leukemia

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SAN DIEGO, April 06, 2022 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (BNGO), pioneer of optical genome mapping (OGM) solutions on the Saphyr® system and provider of N_XClinical™ software, the leading solution for visualization, interpretation and reporting of genomic data, today announced the publication of a new study using OGM in combination with multiple other cytogenetic methods and a new single-cell analysis method as a comprehensive molecular strategy to characterize the genomic variation in B-cell acute lymphoblastic leukemia (B-ALL).

In this study, from the University Hospitals Leuven, Belgium, researchers used a combination of methods to characterize genetic variation in samples from 12 subjects with B-ALL (11 pediatric, 1 adult). Multiple analysis methods, including karyotyping, FISH, MLPA, RT-PCR, OGM, and single-cell sequencing with a custom ALL genetic panel, were used to characterize aneuploidy, structural variants (SVs), copy number variants (CNVs), gene fusions, and single nucleotide variants (SNVs). Differences in mutational burden between B-ALL subtypes were identified. For a subset of the subjects, researchers also used the single cell method to study the changes in mutational load, clonal architecture, and clonal evolution during cancer treatment.

Conventional understanding suggests that cancer development, including B-ALL, can result from an accumulation of genetic changes that lead to unchecked cell growth. As observed in this study, genetic variants associated with cancer development include SNVs, CNVs, and SVs. Different methods are required to characterize the full spectrum of genetic variations present in a sample. This study illustrated how OGM can provide information on SVs occurring across a window of sizes that could help bridge sequencing with traditional cytogenetics.

Erik Holmlin, PhD, president and chief executive officer of Bionano, commented, “We continue to see applications of OGM expanding, this time in combination with single-cell techniques for comprehensive evaluation of cancer genetic variation. We believe OGM’s ability to interrogate genome-wide SVs in an important size range makes OGM a viable alternative to traditional cytogenetic methods, and potentially a strong complement to sequencing and helping to reveal patterns that can stratify research subjects or aid in the selection of targeted therapy. We applaud the work of the team at University Hospitals Leuven and look forward to their continued progress on essential investigations that move forward monitoring techniques for pediatric leukemia.”

Read the full-text of the publication online: https://journals.lww.com/hemasphere/Fulltext/2022/04000/Monitoring_of_Leukemia_Clones_in_B_cell_Acute.2.aspx?context=LatestArticles.

About Bionano Genomics

Bionano Genomics is a provider of genome analysis solutions that can enable researchers and clinicians to reveal answers to challenging questions in biology and medicine. The Company’s mission is to transform the way the world sees the genome through OGM solutions, diagnostic services and software. The Company offers OGM solutions for applications across basic, translational and clinical research. Through its Lineagen business, the Company also provides diagnostic testing for patients with clinical presentations consistent with autism spectrum disorder and other neurodevelopmental disabilities. Through its BioDiscovery business, the Company also offers an industry-leading, platform-agnostic software solution, which integrates next-generation sequencing and microarray data designed to provide analysis, visualization, interpretation and reporting of copy number variants, single-nucleotide variants and absence of heterozygosity across the genome in one consolidated view. For more information, visit www.bionanogenomics.com, www.lineagen.com or www.biodiscovery.com

Forward-Looking Statements of Bionano Genomics

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Words such as “can,” “could,” “potential,” 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 ability of OGM to reveal patterns that stratify research subjects or aid in the selection of targeted therapy, the ability of Bionano to provide information on SVs in cancer research that could help complement gene sequencing, the potential for OGM to become a viable alternative to traditional cytogenetic methods, and future progress by researchers at University Hospitals of Leuven. 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 technologies or improvements in existing technologies; failure of future study results to support those referenced in this press release; 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; 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, 2021 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.

CONTACTS
Company Contact:
Erik Holmlin, CEO
Bionano Genomics, Inc.

+1 (858) 888-7610
eholmlin@bionanogenomics.com

Investor Relations:
Amy Conrad
Juniper Point
+1 (858) 366-3243
amy@juniper-point.com

Media Relations:
Michael Sullivan
Seismic
+1 (503) 799-7520
michael@teamseismic.com

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