Bionano Genomics Releases Saphyr Updates for Industry-Leading Data Yields that Enable Analysis of Complex Cancer Samples at Unprecedented Depths

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Bionano now offering genome analysis services and reagent rental options making it easier than ever for scientists and clinicians to get Bionano Data

SAN DIEGO, Feb. 24, 2020 (GLOBE NEWSWIRE) -- Bionano Genomics (NASDAQ: BNGO) today announced updates to the Saphyr® System designed to increase the speed of data collection, simplify sample preparation for solid tumors and animal tissue and significantly improve the total data yield per flow cell, allowing for a complete workflow for the in-depth analysis of complex, heterogeneous cancer samples. Bionano is also introducing two new ways for customers to access Bionano data: the first, by offering a competitively priced service for human genome analysis, and the second, a reagent-rental model that provide scientists and labs with the Saphyr system when they make a certain minimum commitment to purchase Bionano consumables.

As a result of the updates announced today, Saphyr can collect as much as 5 Terabasepairs of data, or over 1500x coverage of a human genome, in 48 to 96 hours on three samples in parallel, for a total of 15 Tbp on a single Saphyr Chip. Improvements to the Saphyr System's control software have continued to increase the throughput of the instrument, allowing for the analysis of 9 human genomes per 24 hours at 100x coverage of a human genome, or 3 human genomes per 24 hours at 400x coverage on the second generation Saphyr. With the per-genome cost starting at $450 for Saphyr owners, the cost of Bionano data can be $0.09 per Gigabasepair. This unprecedented amount of genomic data allows the Bionano Solve pipeline to detect all major structural variant types genome wide, unbiased, with sensitivities over 90% down to 1% variant allele fraction, which in turn enables the comprehensive analysis of structural variants in small subclones of heterogeneous cancer samples, or the detection of rare variants occurring during genome modification, such as off-target effects of CRISPR-based gene editing. As with previous throughput increases, Bionano is enabling this capability for all existing customer inventory of second generation Saphyr Chips to speed novel discoveries.

The scope of supported sample types with the Bionano Prep SP kit will be expanded to include human and animal tissues. The Bionano Prep SP kit now enables easy and fast extraction of ultra-high molecular weight DNA molecules from various human and animal organs, and from fresh or frozen solid tumor biopsies and resections. The Bionano SP Animal Tissue kit is now in Beta testing at leading institutions worldwide and will become available to early access customers in Q2 2020. Following the successful Saphyr workflow for blood cancers, this new SP kit combines with the low allele fraction variant calling capabilities of Saphyr to create a comprehensive and powerful workflow for solid tumor analyses. No other platform for genome analysis is capable of detecting structural variations with the high sensitivities and low rates of false positives that Saphyr is, especially at these levels of low allele fraction sensitivity, which is critical for cancer research and diagnosis.

Finally, Bionano is expanding its commercial offering to make it easier than ever for scientists and clinicians to get Bionano data. We are expanding our pilot project service offering to a full-service offering for human genome analysis. Customers can now send fresh or frozen human blood, bone marrow aspirate, tissue or cultured cells to Bionano for processing, data generation and analysis. The service costs $650 per genome for genetic disease studies, and $750 for cancer samples analyzed at higher depth. In addition, Bionano now offers labs new reagent-rental option that provides the customer with a Saphyr system with a minimum commitment to purchase consumables and run 120 genomes in six months. The services and reagent-rental programs are available immediately.

Erik Holmlin, PhD, CEO of Bionano Genomics comments: "With the improvements in yield and analysis performance announced today, Saphyr has the potential to become the most powerful genome analysis platform for the detection of structural variants in complex cancer samples. Our unique ability to detect structural variants down to 1% allele fraction, genome-wide, unbiased, without panels or amplification and with the highest sensitivities and lowest false positive rates is unmatched by short or long-read sequencing technologies. We are excited to introduce new ways for researchers and clinicians to generate or receive Bionano data, and we can't wait to see the many discoveries and workflow improvements that access to superior genomic data will enable."

The new services and improved performance for cancer analysis will be discussed at Advances in Genome Biology and Technology (AGBT) Conference taking place February 23-26 in Marco Island, Florida, where Bionano is exhibiting in suite Seagrape 3 and hosting events in Lanai #285. The impact of Bionano analysis will be demonstrated at AGBT with a total of 19 oral and poster presentations and talks hosted by Bionano.

About Bionano Genomics

Bionano is a genome analysis company focused on structural variation detection. The Company's Saphyr system is a 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 comprises an instrument, chip consumables, reagents and a suite of data analysis tools. Bionano data are available through adoption of Saphyr or through services offerings available around the world. For more information, visit www.bionanogenomics.com.

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