



Bionano Genomics to Support Largest Study to Date on COVID-19 Disease Susceptibility

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Bionano Genomics, Rescale, Amazon Web Services, and Genoox are donating consumables and compute resources to this effort based in Hannover, Germany

SAN DIEGO, March 31, 2020 (GLOBE NEWSWIRE) -- Bionano Genomics, Inc. (Nasdaq: BNGO) announced today the launch of the largest study to date aiming to identify genomic variants and novel active substances that influence resistance or sensitivity to the SARS-CoV2 virus, or COVID-19, disease progression and drug response. A variety of genomic and other biological variables will be compared between those patients who show no or mild symptoms and those who show severe illness. The study will control for viral strain differences, and for the known risk factors of age and chronic illness such as heart disease, diabetes, or other immune-compromising disease.

The first study of this kind is underway in Wuhan, China, and is being performed at the site of Wuhan-based GrandOmics, a service provider using Bionano technology. Now, the Hannover Medical School is launching a study involving 1,000 patients and controls, consisting of COVID-19 patients and their partners and first-degree relatives as controls. Partners have typically been intensely exposed to the same strain of the virus as the patients, and differences in disease severity can be caused by genetic variation. The participants will have their genomes analyzed using Next-Generation Sequencing (NGS), and Bionano Genome Imaging. Additionally, the study participants will undergo analysis of their transcriptome to look at gene expression, their metabolome, and a variety of immune markers such as cytokines and T-cell response. The goal of the study is to identify genomic variants that affect the disease, and immune or metabolic variables in the healthier participants that can protect against more severe disease, and to use this knowledge for the development of novel therapies and vaccines.

The study involves the teams of Dr. Doris Steinemann and Dr. Thomas Illig, who are part of the Resolving Infection Susceptibility (RESIST) Cluster which specifically focuses on the study of genomic variants that protect or predispose to infectious disease. They recently purchased Bionano's Saphyr instrument and will be analyzing the study participant samples using the Saphyr System.

A number of companies have committed to supporting this study as part of a global Tech Against Covid initiative. Bionano is donating the consumables needed to analyze the structural variants in the samples. Rescale, the High-Performance Computing cloud platform fully integrated with Saphyr, and Amazon Web Services (AWS), a leading provider of on-demand cloud computing, are donating compute time for the Bionano data analysis. Genoox, the platform for annotation and classification of genomic variants, will donate their compute resources to analyze the NGS data combined with Bionano's structural variation calls for an integrated analysis of small and large genomic variants.

"The unprecedented challenge of COVID-19 requires the world's top technology leaders to team up to fight for a vaccine," said Shawn Hansen, COO of Rescale. "Now that cloud supercomputing resources have become available at no cost, leaders like Bionano are proving they can accomplish in hours what would have previously required days. We hope other market leaders will join the Tech Against Covid initiative to learn more about how they can accelerate research using cloud computing."

"As we face the threat of COVID-19, we understand the significance of accelerating how fast researchers and scientists can drive time-to-insight," said Barry Bolding, Director, High Performance Computing, Amazon Web Services, Inc. "AWS is proud to be working with Bionano Genomics and Rescale to offer complimentary fully managed HPC capability that ramps up scientific data analysis quickly."

Dr. Thomas Illig, head of the Hannover Biobank commented: "In the past 18 years, novel coronaviruses have triggered two epidemics and the current COVID-19 pandemic, of which the full extent still can't be predicted. Rapid measures are required to stop the current pandemic and to better prepare ourselves for new coronaviruses in the long term. We are thankful for the support of the Hannover Medical School, Bionano Genomics, Rescale, AWS, and Genoox, who allow us to scale to the needed study size. The Hannover Medical School and our teams at the RESIST cluster are ready to rapidly deploy this large, most powerful study on the human body's fight against COVID-19."

Erik Holmlin, PhD, CEO of Bionano Genomics commented: "We believe that this study to identify genomic variants that influence the COVID-19 disease progression and intensity is an important step in the development of novel, targeted, antiviral therapies or vaccines. We believe that Bionano's genome imaging technology is the only technology capable of detecting the structural variants that could protect against or predispose patients to the viral infection. After the first study started in the initial epicenter of the epidemic in Wuhan, we are now expanding the scope to other geographical areas including Europe. The research team will make the results from these studies available to the medical and research community, with the hope to help bring this global pandemic to a halt."

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. Bionano'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 is comprised of an instrument, chip consumables, reagents and a suite of data analysis tools, and 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. For more information, visit www.bionanogenomics.com.

About Tech Against Covid

Tech Against Covid is an initiative led by Rescale, Amazon, Google, and Microsoft to offer supercomputing power to researchers, along with necessary end-to-end simulation tools, at no cost to teams working to develop test kits and vaccines for COVID-19. For more information, visit www.techagainstd.com.

Bionano Safe Harbor Statement

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 benefits and outcomes of the Hannover Medical School study; the ability of Saphyr to contribute to the study results; the study results will contribute to stopping the COVID-19 pandemic; our belief that Bionano’s genome imaging technology is the only technology capable of detecting the structural variants that could protect against or predispose patients to the COVID-19; plans for making the results from this study and other studies of COVID-19 that are using the Saphyr system; and the effectiveness and utility of the Saphyr system in such settings. 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 Saphyr may not be as effective as expected; variants in the genome that can protect against or predispose patients to the viral infection may go undetected; the COVID-19 pandemic may become contained prior to the release of our study results; the introduction of competitive products; our ability to obtain sufficient financing to fund our efforts; 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, 2019 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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