NantHealth and ImmunityBio Announce RNA Profiling for Clinical Decision Support Publication In Nature's Scientific Reports

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Study demonstrates the viability and value of RNA sequencing from formalin fixed samples in gaining a deeper understanding of patient disease biology and in delivering diagnostic, prognostic, and therapeutic value in a clinical setting

RNA sequencing provides the potential to molecularly define a patient's cancer, identify its origin, and, most importantly, optimize treatment plans for the highest chance of success, especially with immunotherapies

CULVER CITY, Calif. & EL SEGUNDO, Calif.--(BUSINESS WIRE)-- NantHealth, Inc. (NASDAQ: NH), a provider of enterprise solutions that help businesses transform complex data into actionable insights, today announced the publication of a study that revealed RNA sequencing is not only viable but may also provide significant clinical value in analyzing a cancer patient's specific disease biology to enable an optimized treatment decision with a higher likelihood of success. The study was published in Nature's *Scientific Reports*, an open access, peer-reviewed journal dedicated to original research from across all areas of the natural and clinical sciences.

Prepared in collaboration with NantOmics, LLC and ImmunityBio, Inc., the study was designed to explore the potential use of formalin-fixed paraffin-embedded (FFPE)-derived RNA transcriptome profiling for clinical decision-making. This technique was previously not considered to yield significant clinical value due to the lower quality, degraded samples typically produced by the formalin fixation process. FFPE is the most common method used in clinical settings for storing tumor biopsies.

The study revealed an overall sequencing success rate of 81% with highly consistent coverage in direct FFPE and fresh-frozen (FF) replicates (98% agreement). The results provide strong rationale for the use of FFPE-derived RNA sequencing in clinical decision-making based on the reproducibility, robustness, and consistency of whole transcriptome profiling. This research enables the comparison of clinical samples to research studies, which generally differ in both data collection and sequencing methods, and which may unlock highly valuable insights that would not be possible with DNA sequencing techniques alone.

"This is an important step to advancing towards molecularly informed medicine, both from the perspective of diagnostics to precise therapeutic intervention," said Dr. Patrick Soon-Shiong, CEO of NantHealth, NantOmics and ImmunityBio. "Genomic reporting capabilities could be enhanced through clinical applications resulting from this technology, including identifying cancers of unknown primary (CUP), prevalence of immune cell infiltrates in the tumor microenvironment (immunome), and expression analysis of checkpoint markers including those targeted by commercial and investigational immunotherapies," he continued.

The study also demonstrates that RNA sequencing is not only clinically viable but valuable and can provide a more thorough understanding of what genes are driving each individual patient's tumor to better inform personalized treatment decisions.

To achieve this, researchers performed ribo-deplete RNA extractions on more than 3,200 FFPE slide samples to measure the expression of clinically significant genes that help identify treatments with the highest likelihood of response. The study included a comprehensive evaluation of RNA extraction methods (Poly-A and ribo-depletion) by comparing transcriptomes from The Cancer Genome Atlas (TCGA) cohort and 3,116 FFPE samples. Findings showed minimal differences between the two approaches within clinically important genes, while establishing a computational framework for comparing the expression of FFPE clinical samples to the growing database of research samples generated by academic studies.

“These are very exciting results from a robust scientific study of a high caliber,” said Shahrooz Rabizadeh, Ph.D., Chief Scientific Officer, ImmunityBio. “The implication of using RNA sequencing to molecularly define a patient’s cancer, identify the origin of cancers of unknown primary, and most importantly, optimize treatment plans for the highest chance of success, especially with immunotherapies, is profound.”

“Through this research, we demonstrated the robustness of the RNA assay and the informatics techniques that help clinicians understand the transcriptional drivers of disease in their patients, allowing the further advancement of personalized medicine,” said Dr. Sandeep “Bobby” Reddy, Chief Medical Officer, NantHealth. “NantHealth knows that high-quality data is the backbone of modern medicine. This study unlocks valuable insights through a method that allows the analysis of both academic research and clinical data for treatment optimization, further strengthening our fight against cancer.”

Receiving widespread attention in policy documents and the media, *Scientific Reports* is the seventh most-cited journal in the world, with more than 350,000 citations. The publication has an extensive network of expert peer reviewers and an editorial team who provide rigorous and objective review. *Scientific Reports* is guided by the same ethical and editorial guidelines as other Nature Research publications to ensure that all the research is original, scientifically robust and of the highest quality. The journal is published through a number of different channels, including nature.com, where it receives approximately two million monthly visitors.

About NantHealth, Inc.

NantHealth, a member of the NantWorks ecosystem of companies, provides enterprise solutions that help businesses transform complex data into actionable insights. By offering efficient ways to move, interpret, and visualize complex and highly sensitive information, NantHealth helps its customers in healthcare, life sciences, logistics, telecommunications, and other industries, to automate, understand, and act on data while keeping it secure and scalable. NantHealth’s product portfolio comprises the latest technology in molecular analysis (GPS Cancer), payer/provider collaboration platforms for real-time coverage decision support (NaviNet and Eviti), and Data Products that provide multi-data analysis, reporting and professional services offerings. OpenNMS, a NantHealth subsidiary, helps businesses monitor and manage network health and performance. For more information, visit nanthealth.com, follow us on Twitter, Facebook and LinkedIn, and subscribe to our blog.

Forward Looking Statement

This news release contains certain statements of a forward-looking nature relating to future events or future business performance. Forward-looking statements can be identified by the words “expects,” “anticipates,” “believes,” “intends,” “estimates,” “plans,” “will,” “outlook” and similar expressions. Forward-looking statements are based on management’s current plans, estimates, assumptions and projections, and speak only as of the date they are made. Risks and uncertainties include, but are not limited to: our ability to successfully integrate a complex learning

system to address a wide range of healthcare issues; our ability to successfully amass the requisite data to achieve maximum network effects; appropriately allocating financial and human resources across a broad array of product and service offerings; raising additional capital as necessary to fund our operations; achieving significant commercial market acceptance for our sequencing and molecular analysis solutions; establish relationships with, key thought leaders or payers' key decision makers in order to establish GPS Cancer as a standard of care for patients with cancer; our ability to grow the market for our Systems Infrastructure, and applications; successfully enhancing our Systems Infrastructure and applications to achieve market acceptance and keep pace with technological developments; customer concentration; competition; security breaches; bandwidth limitations; our ability to integrate OpenNMS into our operations;; our ability to obtain regulatory approvals; dependence upon senior management; the need to comply with and meet applicable laws and regulations; unexpected adverse events; clinical adoption and market acceptance of GPS Cancer; and anticipated cost savings. We undertake no obligation to update any forward-looking statement in light of new information or future events, except as otherwise required by law. Forward-looking statements involve inherent risks and uncertainties, most of which are difficult to predict and are generally beyond our control. Actual results or outcomes may differ materially from those implied by the forward-looking statements as a result of the impact of a number of factors, many of which are discussed in more detail in our reports filed with the Securities and Exchange Commission.

About ImmunityBio

ImmunityBio, Inc. is a late-clinical-stage immunotherapy company developing next-generation therapies that drive immunogenic mechanisms for defeating cancers and infectious diseases. The company's immunotherapy platform activates both the innate (natural killer cell and macrophage) and adaptive (T cell) immune systems to create long-term "immunological memory." This novel approach is designed to eliminate the need for high-dose chemotherapy, improve upon the outcomes of current CAR T-cell therapies, and extend beyond checkpoint inhibitors.

ImmunityBio's platform is based on the foundation of three separate modalities: antibody cytokine fusion proteins, synthetic immunomodulators, and second-generation human adenovirus (hAd5) vaccine technologies.

Anktiva™ (ImmunityBio's lead cytokine infusion protein) is a novel interleukin-15 (IL-15) superagonist complex and has received Breakthrough Therapy and Fast Track Designations from the U.S. Food and Drug Administration (FDA) for BCG-unresponsive CIS non-muscle invasive bladder cancer (NMIBC). The company is also in Phase 2 or 3 trials for indications such as first- and second-line lung cancer, triple-negative breast cancer, metastatic pancreatic cancer, recurrent glioblastoma, and soft tissue sarcoma in combination with the company's synthetic immune modulator (aldoxorubicin).

ImmunityBio is also developing therapies, including vaccines, for the prevention and treatment of HIV, influenza, and the coronavirus SARS-CoV-2 with its second-generation human adenovirus (hAd5) vaccine technologies.

Forward-Looking Statements

This press release contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include statements concerning or implying that ImmunityBio will be successful in improving the treatment of various diseases, including, but not limited to the novel coronavirus and cancer. Risks and uncertainties related to

this endeavor include, but are not limited to, the company's beliefs regarding the success, cost, and timing of its development activities and clinical trials.

Forward-looking statements are based on management's current expectations and are subject to various risks and uncertainties that could cause actual results to differ materially and adversely from those expressed or implied by such forward-looking statements. Accordingly, these forward-looking statements do not constitute guarantees of future performance, and you are cautioned not to place undue reliance on these forward-looking statements. These forward-looking statements speak only as of the date hereof, and we disclaim any obligation to update these statements except as may be required by law.

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