Seer Announces Publication of Seminal Study Demonstrating Superior Performance of Technology Platform for Deep, Unbiased, Precise, Scalable Proteomics in the Proceedings of the National Academy of Sciences

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Published results highlight simultaneous superior performance across depth, precision, and throughput versus conventional plasma proteomics workflows

REDWOOD CITY, Calif., March 14, 2022 (GLOBE NEWSWIRE) -- Seer, Inc. (Nasdaq: SEER) today announced the publication of a study demonstrating the performance of the technology platform underlying the Proteograph Product Suite™ for deep, unbiased, precise, scalable proteomics. The paper, entitled "*Engineered Nanoparticles Enable Deep Proteomics Studies at Scale by Leveraging Tunable Nano-Bio Interactions*," was published in The *Proceedings of the National Academy of Sciences (PNAS)* by an interdisciplinary team of scientists from Seer, Oregon Health Sciences University, Massachusetts Institute of Technology, and Harvard Medical School. The study examines in detail the relationship between the unique physicochemical properties of a panel of proprietary engineered nanoparticles (NPs) and the diverse pattern of protein sampling that is enabled by a unique nano-bio interface that is created between a given NP surface and a given biological sample. The Seer machine learning model developed in this paper enhances understanding of the molecular interactions that occur at the nano-bio interface and shows how future NPs may be rationally designed using machine learning to differentially interrogate specific protein families.

The proprietary nanoparticle technology described in the *PNAS* paper forms the foundation for Seer's Proteograph Product Suite, which is the only at scale solution available to deliver peptide and amino acid level resolution that enables identification of proteins and protein variants in an unbiased manner for deep, precise, and scalable proteomics studies. Understanding the proteome in health and disease, which is comprised of millions of protein variants, is believed to be key to unlocking biological insight to enable precision medicine.

"We are excited about the publication of this seminal paper in *PNAS* that further highlights the technological and scientific underpinning of the Proteograph Product Suite, opening our aperture to see the vast molecular information embedded in our proteome," said Omid Farokhzad, Chief Executive Officer and Chair of Seer. "We believe that a deeper understanding of the proteome, which can only be achieved in an unbiased way since the vast majority of the information is unknown, is key to the next wave of biological discoveries. These are exciting times for the field, and we're at a watershed moment where our access to deep, unbiased proteomics information at scale is no longer constrained."

About the Study Findings

Deep, unbiased profiling of the plasma proteome at scale has not been possible with traditional workflows. In this study, Seer demonstrates superior performance of the technology platform underlying the Proteograph Product Suite. The technology platform simultaneously achieves an order of magnitude gain in median depth of coverage, 2x higher precision, 2.5x protein identifications and significant improvement in throughput in comparison to a conventional deep workflow. The performance of the Proteograph Product Suite uniquely enables population-scale unbiased studies where a large number of protein variants may be discovered. This performance is enabled by a panel of proprietary, engineered nanoparticles and this study demonstrates that the reproducible and quantitative dynamic range compression renders peptide and protein variant information significantly more accessible to downstream detectors independent of the LC-MS/MS acquisition mode.

Using machine learning, the authors dissected the components of the physicochemical properties of proprietary engineered nanoparticles that contribute to the formation and composition of protein coronas. Correlations were identified between the physicochemical properties of nanoparticles and the abundance and functions of the specific proteins that interact with them. This structure-binding relationship will progressively enhance the ability to precisely and rationally design proprietary nanoparticles to orthogonally interrogate protein variants in different protein families, further enhancing the utility of nanoparticles in large-scale omics research and biomarker discovery.

About Seer

Seer is a life sciences company developing transformative products that open a new gateway to the proteome. Seer's Proteograph™ Product Suite is an integrated solution that includes proprietary engineered nanoparticles, consumables, automation instrumentation and software to perform deep, unbiased proteomic analysis at scale in a matter of hours. Seer designed the Proteograph workflow to be efficient and easy to use, leveraging widely adopted laboratory instrumentation to provide a decentralized solution that can be incorporated by nearly any lab. Seer's Proteograph Product Suite is for research use only and is not intended for diagnostic procedures. For more information, please visit www.seer.bio.

Forward-Looking Statements

This press release contains "forward-looking statements" within the meaning of the Private Securities Litigation Reform Act of

1995, as amended. Such forward-looking statements are based on Seer's beliefs and assumptions and on information currently available to it on the date of this press release. Forward-looking statements may involve known and unknown risks, uncertainties and other factors that may cause Seer's actual results, performance, or achievements to be materially different from those expressed or implied by the forward-looking statements. These statements include but are not limited to statements regarding Seer's ability to design proprietary nanoparticles, unlock biological insights, the ability of the Proteograph to enable unbiased, deep proteomics studies at scale to deliver new levels of insight, speed, and sensitivity, to expand unbiased proteomics and the performance of the technology platform. These and other risks are described more fully in Seer's filings with the Securities and Exchange Commission ("SEC") and other documents that Seer subsequently files with the SEC from time to time. Except to the extent required by law, Seer undertakes no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.

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