Seer's Proteograph Platform Enables Unprecedented 20,000-Sample Proteomics Study with Korea University to Develop AI-Driven Diagnostics for Cancers in Young Adults

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First-of-its-kind study will use Seer's next-generation workflow to identify early-onset cancer biomarkers and power deep, unbiased mass spectrometry-based proteomics

Seer's new Proteograph ONE Assay to accelerate analysis and reduce costs, making large-scale studies feasible

REDWOOD CITY, Calif., June 01, 2025 (GLOBE NEWSWIRE) -- Seer, Inc. (Nasdaq: SEER), the pioneer and trusted partner for deep, unbiased proteomic insights, and Korea University, a leading research institution committed to innovation and global impact, today announced the launch of a population-level study aimed at identifying novel blood-based biomarkers that could lead to cancer diagnostics for young adults in their 20s and 30s. Relying on Seer's newly launched Proteograph ® ONE Assay and SP200 Automation Instrument along with the Thermo Scientific™ Orbitrap™ Astral™ mass spectrometer, this is the first large-scal plasma proteomics initiative of its kind to leverage mass spectrometry and AI-driven analytics to enhance early cancer detection and improve patient outcomes.

Seer's latest platform advances will allow deep, unbiased proteomic analysis of 20,000 plasma samples in less time and cost than has ever before been possible. These will include samples from 15,000 cancer patients and 5,000 healthy patients that will serve as controls, sourced from Korea's leading cancer institutions: Seoul National University Hospital, the National Cancer Center, and Samsung Medical Center. The three-year study is funded by the K-Health MIRAE initiative under the Ministry of Health and Welfare, Republic of Korea, which supports ambitious, high-impact health research.

"We carefully evaluated multiple approaches to expand the dynamic range of the plasma proteome—including some attempting to replicate Seer's Proteograph platform—and Seer's assay stood out as the only solution capable of delivering the depth, scale, and, critically, reproducibility needed for this ambitious study," said Professor Sang-Won Lee at the Center of Proteogenome Research (CPGR) of Korea University. "The unique combination of Seer's latest platform and CPGR's proprietary dual online liquid chromatography technology gives us the ability to conduct population-scale research that would otherwise be prohibitively complex and slow. This collaboration represents a major step toward developing AI-powered diagnostics that could fundamentally improve how we detect and treat cancer in younger adults."

By leveraging the power of deep proteomic analysis, this study aims to catalyze a new wave of diagnostics that are more sensitive, scalable, and personalized—ultimately driving earlier interventions and improving survival outcomes in young adult cancer patients worldwide.

Transformational Technology for Population-Scale Proteomics

At the heart of the study is Seer's Proteograph ONE workflow, introduced this week at the 2025 American Society for Mass Spectrometry (ASMS) Conference in Baltimore, MD. The next-generation system dramatically increases scale and efficiency in proteomic analysis by:

- Processing 1,000+ samples per week per instrument
- Requiring only a single mass spectrometry injection per sample
- Completing 80-sample batches with <5 hours automated runtime
- Identifying up to 10 times more proteins than conventional mass spectrometry methods

"Korea University selected Seer's new Proteograph ONE workflow as the foundation for this critical and forward-looking initiative so that they can unlock the full potential of proteomics in population-scale research," said Omid Farokhzad, Chair and CEO of Seer. "We're excited to help define a new generation of diagnostics that can transform how diseases like cancer are detected and managed around the world."

The study also employs Thermo Scientific's Orbitrap Astral MS—the industry's leading mass spectrometer for proteomic research. The Proteograph offerings combined with the Orbitrap Astral MS provide a deep, full-range plasma proteome analysis at faster speeds to enable critical breakthrough discoveries in large-population studies.

"When it comes to plasma proteomics studies such as this, the Orbitrap Astral MS and Proteograph ONE workflow provide a powerful solution to drive groundbreaking research," said Dan Shine, senior vice president and president of analytical instruments, Thermo Fisher Scientific. "We're proud to be a part of initiatives like this to enable earlier detection and help progress precision medicine."

The next-generation offerings mark a significant evolution of the Proteograph Product Suite, delivering the scale, speed, and

efficiency required to make population-level proteomics both practical and accessible. The collaboration with Korea University exemplifies the real-world impact of this technology—demonstrating how deep, unbiased proteomic insights powered by Seer's platform can now inform large-scale studies, accelerate biomarker discovery, and drive the development of AI-enabled diagnostics that redefine precision medicine.

About Seer, Inc.

Seer, Inc. (Nasdaq: SEER) sets the standard in deep, unbiased proteomics—delivering insights with a scale, speed, precision, and reproducibility previously unattainable. Seer's Proteograph Product Suite uniquely integrates proprietary engineered nanoparticles, streamlined automation instrumentation, optimized consumables, and advanced analytical software to solve challenges conventional methods have failed to overcome. Traditional proteomic technologies have struggled with inconsistent data, limited throughput, and prohibitive complexity, but Seer's robust and scalable workflow consistently reveals biological insights that others cannot. Seer's products are for research use only and are not intended for diagnostic procedures. For more information about Seer's differentiated approach and ongoing leadership in proteomics, visit www.seer.bio.

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