Seer Highlights Capability of Deep Proteomics to Enhance Genomic Insights Into Alzheimer's, Lung Cancer, and More at ASHG 2024

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CoLab session with PrognomiQ and Salk Institute plus multiple presentations of new data offer firsthand look at multi-omic breakthroughs powered by Seer's Proteograph™ Product Suite

REDWOOD CITY, Calif., Oct. 31, 2024 (GLOBE NEWSWIRE) -- Seer, Inc. (Nasdaq: SEER), a leading life sciences company commercializing a disruptive new platform for proteomics, will showcase the Proteograph Product Suite's unique ability to deliver deep proteomic insights that complement and strengthen genomic and other "omic" research at the American Society of Human Genetics (ASHG) 2024 Annual Meeting in Denver, Colo., from Nov. 5-9. Seer will present a CoLab session exploring research breakthroughs from PrognomiQ and Salk Institute, as well as several presentations in the scientific sessions, all enabled by the industry-leading capabilities of Seer's Proteograph Product Suite.

Covering prominent disease areas like lung cancer and Alzheimer's Disease, as well as conditions scientists are only starting to understand, such as Relative Energy Deficiency in Sport (REDs), these sessions will explore how Seer is linking powerful proteomic capabilities at previously unattainable depth, scale, and speed, with genomic data to produce a compelling and growing body of advanced research.

"Advancements in genomic research in recent decades have significantly enhanced our understanding of biology and human health," said Asim Siddiqui, PhD, Senior Vice President, Research and Tech Development at Seer. "With the Proteograph Product Suite, we are now able to combine deep proteomics at scale with deep genomics at scale and push the boundaries of biological insight, opening up new frontiers in scientific discovery. At Seer, we are excited to see our Proteograph Product Suite at the forefront of so many of these multi-omic breakthroughs, and we believe we are just scratching the surface of what is possible."

Seer CoLab Session at the ASHG 2024 Annual Meeting:

The Power of Deep Proteomics: Driving the Next Generation of Genomic Research

Unleashing the Power of Multi-omics: A Breakthrough in the Early Detection of Lung Cancer
Philip Ma, PhD
CEO & Founder, PrognomiQ, Inc.

Lung cancer remains a leading cause of death globally, driven in large part by its detection only in late and advanced stages of cancer. Thus, early detection is crucial for improved outcomes, but current screening methods, such as low-dose CT scans, face limitations in adherence and sensitivity. Philip Ma and colleagues are exploring a multi-omics biomarker test that leverages the power of proteomics, transcriptomics, and metabolomics to detect early-stage lung cancer.

Their study, the MOSAIC study, employed a deep and untargeted exploration of the plasma proteome, coupled with transcriptomic and metabolomic data. This comprehensive approach enabled them to identify a panel of biomarkers that can accurately discriminate between lung cancer patients and controls, even in the early stages of the disease.

By combining multiple molecular data types, their multi-omics classifier offers a more sensitive and specific approach to lung cancer detection. This classifier demonstrated exceptional sensitivity for all-stage, stage I, and stage II-IV lung cancer, outperforming existing published studies. This breakthrough enables the development of a blood-based lung cancer detection test, with the potential to significantly improve early diagnosis, leading to better treatment outcomes and reducing mortality rates.

"To truly make a difference for the millions of patients each year who are diagnosed with lung cancer, we must find ways to detect the disease sooner when the chances of treatment and survival are more favorable," said Philip Ma, CEO and Founder of PrognomiQ. "The work we're doing using Seer's Proteograph platform is enabling us to transform early lung cancer detection, giving us real hope that more lives can be saved."

Mouse Model of Relative Energy Deficiency in Sport
Laura van Rosmalen, PhD
Satchidananda Panda Lab, Salk Institute for Biological Studies

Relative Energy Deficiency in Sport (REDs) is associated with insufficient energy intake and excessive energy expenditure. This state of low energy availability can result in systemic neuroendocrine and metabolic abnormalities affecting health and performance. Studies on mice have shown that the effects of REDs can be wide-ranging, including significant shrinkage of vital organs like the kidney and reproductive organs, deterioration of bone quality, and negative psychological consequences.

Despite the high prevalence (affecting 40 percent of athletes), little is known about how REDs impacts the body at the molecular level. This has made it difficult to understand REDs, its diagnosis and treatment, and highlights the importance of an animal model

of REDs. Deep proteomic insights are helping to reveal protein signatures of REDs, with important implications for metabolic health and athletic performance.

“A multi-omics approach, including unbiased proteomics, is arguably even more important for a condition like REDs for which little is known about its diagnosis, effects, or potential treatments,” said Satchidananda Panda, PhD, Director, Wu-Tsai Human Performance Alliance at Salk Institute. “Seer’s technology allows our team to understand REDs on a cellular and molecular level, which in turn could lead to diagnostic tests and therapies to halt, reverse, or prevent it entirely.”

Highlights From Seer and Collaborators Presenting at the ASHG 2024 Annual Meeting:

1. **Seer**
    - **Title:** *A Genome-wide Association Study of Mass Spectrometry Proteomics Using the Seer Proteograph Platform*
    - **Presenting Author:** Serafim Batzoglou, PhD
    - **Date & Time:** Nov. 6, 2:30 - 4:30 p.m.
2. **Seer**
    - **Title:** *Understanding the Impact of Genetic Variants on Alzheimer’s Disease With Mass Spectrometry Proteogenomics*
    - **Presenting Author:** Harendra Guturu, PhD
    - **Date & Time:** Nov. 7, 2:30 - 4:30 p.m.
3. **New York University**
    - **Title:** *Multi-omic Profiling in a 61-day Pig Kidney to Human Decedent Xenotransplant Reveals a Concerted Acute Rejection Immune Response*
    - **Presenting Author:** Brendan Keating, PhD
    - **Date & Time:** Nov. 6, 11:15 a.m.

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.

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