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Quanterix' Simoa Technology Powers Largest and Most Diverse Global Investigation of Plasma Neurofilament Light's Role in Dementia Diagnosis

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Ultra-sensitive biomarker platform delivers comprehensive evaluation of plasma NFL's utility across 13 neurodegenerative disorders, Down syndrome and depression

BILLERICA, Mass.--(BUSINESS WIRE)--Jun. 7, 2021-- [Quanterix Corporation](#) (NASDAQ: QTRX), a company digitizing biomarker analysis with the goal of advancing the science of precision health, today announced that its [Simoa® technology](#) has been used in a worldwide collaborative study of the plasma neurofilament light (NfL) biomarker to evaluate its utility for a range of neurological conditions. Published in [Nature Communications](#), the research marks the most robust effort to date assessing the use of NfL in blood to screen for neurodegeneration as a cause of cognitive symptoms; differentiate among neurodegenerative disorders and distinguish psychiatric disorders; and derive age-related concentration cutoffs that may help to maximize plasma NfL's usefulness in a clinical setting.

"NfL is a widely recognized biomarker for measuring axonal injury and neuronal death, but current testing techniques in cerebral spinal fluid are invasive and painful, limiting its full potential for routine care," said Kevin Hrusovsky, Chairman and Chief Executive Officer, Quanterix and Founder of [Powering Precision Health](#) (PPH). "Studies conducted by the world's pre-eminent researchers have demonstrated the importance of plasma-based NfL and validate it as a viable alternative. However, few studies go as far as this to showcase plasma NfL's many advantages for non-invasive, routine neurodegenerative screenings and diagnostics. Through the high-fidelity detection capabilities of Simoa, this research team has charted new territory and further established blood based NfL as a critical and invaluable marker in the ongoing effort to detect, differentiate and, ultimately, improve treatment for a range of cognitive conditions, from Alzheimer's Disease to depression."

For this study, 2269 total individuals were examined from two independent multicenter cohorts from [King's College London](#) and [the Swedish BioFINDER study](#) using the Simoa platform and Quanterix' in-house assays. The research team analyzed the distribution of plasma NfL in cognitively unimpaired (CU) individuals; the Alzheimer's Disease (AD) continuum and a broad cross-section of other neurodegenerative disorders; Down syndrome and depression. The ultra-sensitive biomarker platform enabled the team to further inspect the accuracy, sensitivity and specificity of blood based NfL in differentiating neurodegenerative disorders from each other and CU individuals. Finally, the study uncovered new evidence to determine and validate age-related concentration cutoffs for plasma NfL across the range of disorders under observation.

Findings from the research corroborate the correlation between major neurodegenerative disorders and increased plasma NfL concentrations on an unprecedented scale. The study adds further credibility to suggestions that plasma NfL can be clinically useful in differentiating between neurodegenerative conditions and identifying or eliminating it as a cause of cognitive symptoms. Notably, the authors of this paper demonstrate the use of plasma NfL to differentiate atypical parkinsonian disorders from Parkinson's Disease (PD), identify dementia in Down syndrome patients, distinguish neurodegenerative disorders from depression, and potentially, identify frontotemporal dementia (FTD) in patients with cognitive impairment. Lastly, the study offers important new data on the relationship between age and NfL's diagnostic reliability, demonstrating superior detection capabilities in individuals younger than 65 than those above this threshold. This allowed the research team to formulate data-driven concentration cutoffs that give relatively low false positives of abnormal plasma NfL and support the use of the marker in disorders with a younger age of onset, such as Early-Onset Alzheimer's Disease (EOAD), Amyotrophic Lateral Sclerosis (ALS) and FTD.

"We believe this study offers the most in-depth analysis of plasma NfL's strengths and areas of opportunity to date," said Nicholas Ashton, assistant professor at the [University of Gothenburg's Sahlgrenska Academy](#), Department of Psychiatry and Neurochemistry, and lead researcher on the study. "Our learnings reinforce the potential to harness plasma NfL to support routine testing in clinical settings for a number of neurological considerations. The marker's ability to enhance diagnostics and differentiation among a set of highly complex conditions with overlapping disease indicators holds great promise for the future of clinical care."

"This study is an important milestone for precision health and comes at a time of renewed vigor to bring treatments for intractable dementias over the goal line," continued Hrusovsky. "It is our firm belief that blood biomarkers will continue to play a vital role in this future as important tools for identifying neurodegeneration, distinguishing it from other cognitive conditions, and serving as a confirmatory measure for healthcare professionals to determine patients' clinical trial prospects and the value of newly approved therapies."

To learn more about Quanterix, visit www.quanterix.com/about. For more information about the Simoa® NfL assay, visit <https://www.quanterix.com/simoa-assay-kits/nf-light/>.

About Quanterix

Quanterix is a company that's digitizing biomarker analysis with the goal of advancing the science of precision health. The company's digital health solution, Simoa, has the potential to change the way in which healthcare is provided today by giving researchers the ability to closely examine the continuum from health to disease. Quanterix' technology is designed to enable much earlier disease detection, better prognoses and enhanced treatment methods to improve the quality of life and longevity of the population for generations to come. The technology is currently being used for research applications in several therapeutic areas, including oncology, neurology, cardiology, inflammation and infectious disease. The company was established in 2007 and is located in Billerica, Massachusetts. For additional information, please visit <https://www.quanterix.com>.

Forward-Looking Statements

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) are intended to identify forward-looking statements. Forward-looking statements in this news release are based on Quanterix' expectations and assumptions as of the date of this press release. Each of these forward-looking statements involves risks and uncertainties. Factors that may cause Quanterix' actual results to differ from those expressed or implied in the forward-looking statements in this press release are discussed in Quanterix' filings with the U.S. Securities and Exchange Commission, including the "Risk Factors" sections contained therein. Except as required by law, Quanterix assumes no obligation to update any forward-looking statements contained herein to reflect any change in expectations, even as new information becomes available.

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