



Quantum-Si's Next-Generation Single-Molecule Protein Sequencing Technology Published in *Science*, Signaling New Era of Life Science and Biomedical Research

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Semiconductor Chip and Time Domain Sequencing™ Technology Will Advance Drug Discovery and Diagnostics, Enabling People to Live Healthier and Longer Lives

Key Takeaways:

- Next-generation single-molecule protein sequencing technology is poised to transform the science and research community's understanding of the proteome by unlocking unprecedented insights about the human body — just as the advent of next-generation DNA sequencing has revolutionized our knowledge of the human genome over the past two decades.
- Through its real-time amino acid sequencing approach, Quantum-Si is on the forefront of commercializing the first platform that will offer an accessible and accurate understanding of proteins with single-molecule resolution — without the roadblocks of complex chemistry and large, expensive equipment — enabling groundbreaking research that will ultimately help people live healthier and longer lives.
- This is the first paper from any company demonstrating protein sequencing technology that has been published in a major peer-reviewed journal, serving to showcase the unparalleled innovation behind Quantum-Si's technology and how it will shape the future of proteomics.

GUILFORD, Conn.--(BUSINESS WIRE)-- Oct. 13, 2022--[Quantum-Si Incorporated](#) (Nasdaq: QSI) ("Quantum-Si," "QSI" or the "Company"), a life sciences company commercializing the first next-generation single-molecule protein sequencing platform, today announced that *Science*, the peer-reviewed academic journal of the American Association for the Advancement of Science, published new research showcasing how single-molecule protein sequencing via semiconductor chip and Time Domain Sequencing™ technologies will transform life science and biomedical research. This first-of-its-kind sequencing process, which provides an unparalleled understanding of proteins, will advance drug discovery and diagnostics and bring transformative health and disease insights to the world.

Founded by world-renowned scientist, entrepreneur, and National Medal of Technology and Innovation recipient Dr. Jonathan Rothberg, Quantum-Si developed its next-generation single-molecule protein sequencing technology to create better, more comprehensive ways to research proteins – and to influence the diagnosis of modern diseases.

"I am proud and excited to share the first next-generation single-molecule protein sequencing technology with the world," said Dr. Rothberg, senior author of the paper. "Just as the work I did with my early genomics collaborators on the first next-generation DNA sequencing led to a Nobel Prize for Svante Pääbo, I fully expect the early adopters of Quantum-Si's technology to make discoveries just as profound and impactful."

As described in *Science's* publication of "[Real-time dynamic single-molecule protein sequencing on an integrated semiconductor device.](#)" Quantum-Si's semiconductor chip contains millions of wells, allowing for the cataloging of many proteins in parallel and the understanding of how these proteins are modified at the single-molecule level. The company's next-generation sequencing system detects and cleaves amino acids using proteins and enzymes derived from naturally occurring pathways that carry out a similar process in cells. This approach eliminates roadblocks of complex chemistry and large, expensive equipment facing other technologies, while providing the sensitivity, scalability, and accessibility needed to accelerate biomedical research.

"The concept of a small benchtop instrument carrying out massively-parallel sequencing of individual protein molecules was previously unimaginable," said Brian D. Reed, Ph.D, co-author of the study and Head of Research at Quantum-Si. "Researchers have used indirect methods to understand proteins and have been waiting for tools that would be transformative for proteomics in the same way that DNA sequencing has been for genomics. Our platform's ability to map protein modifications, which have been difficult to detect with other technologies, will greatly advance our understanding of the function and regulation of proteins in health and disease."

Additional information on Quantum-Si's single-molecule protein sequencing process, as outlined in the *Science* study, include:

- A dynamic approach in which single peptides are probed in real-time by a mixture of dye-labeled N-terminal amino acid recognizers and simultaneously cleaved by aminopeptidases;
- Annotation of amino acids and identification of the peptide sequence by measuring fluorescence intensity, lifetime, and binding kinetics on an integrated semiconductor chip;
- Recognizers identify multiple amino acids in an information-rich manner that enables discrimination of single amino acid substitutions and post-translational modifications (PTMs), allowing for a more detailed picture of individual proteins and their variations for future disease identification and prevention.

The peer-reviewed article titled "[Real-time dynamic single-molecule protein sequencing on an integrated semiconductor](#)" appears in the October 14, 2022 issue of *Science* and is available online and in print. More information, including a copy of the paper, can be found online at the *Science* press package at <https://www.eurekalert.org/press/scipak/>.

To learn more about Quantum-Si and the company's proteomics technology, visit www.quantum-si.com.

About Quantum-Si Incorporated

Quantum-Si is focused on revolutionizing the growing field of proteomics. The Company's suite of technologies is powered by a first-of-its-kind semiconductor chip designed to enable single-molecule next-generation protein sequencing and digitize proteomic research in order to advance drug discovery and diagnostics beyond what has been possible with DNA sequencing. Learn more at www.quantum-si.com.

Forward Looking Statements

This press release includes "forward-looking statements" within the meaning of the "safe harbor" provisions of the United States Private Securities Litigation Reform Act of 1995. The actual results of the Company may differ from its expectations, estimates, and projections and, consequently, you should not rely on these forward-looking statements as predictions of future events. Words such as "expect," "estimate," "project," "budget," "forecast," "anticipate," "intend," "plan," "may," "will," "could," "should," "believes," "predicts," "potential," "continue," and similar expressions (or the negative versions of such words or expressions) are intended to identify such forward-looking statements. These forward-looking statements include, without limitation, the Company's expectations with respect to future performance and development and commercialization of products and services. These forward-looking statements involve significant risks and uncertainties that could cause the actual results to differ materially from those discussed in the forward-looking statements. Most of these factors are outside the Company's control and are difficult to predict. Factors that may cause such differences include, but are not limited to: the impact of COVID-19 on the Company's business; the inability to maintain the listing of the Company's Class A common stock on The Nasdaq Stock Market; the ability to recognize the anticipated benefits of the business combination, which may be affected by, among other things, competition and the ability of the Company to grow and manage growth profitably and retain its key employees; our ongoing leadership transition; changes in applicable laws or regulations; the ability of the Company to raise financing in the future; the success, cost and timing of the Company's product development and commercialization activities; the potential attributes and benefits of the Company's products and services; the Company's ability to obtain and maintain regulatory approval for its products, and any related restrictions and limitations of any approved product; the Company's ability to identify, in-license or acquire additional technology; the Company's ability to maintain its existing lease, license, manufacture and supply agreements; the Company's ability to compete with other companies currently marketing or engaged in the development or commercialization of products and services that the Company is developing; the size and growth potential of the markets for the Company's future products and services, and its ability to serve those markets, either alone or in partnership with others; the pricing of the Company's products and services following anticipated commercial launch; the Company's estimates regarding future expenses, future revenue, capital requirements and needs for additional financing; the Company's financial performance; and other risks and uncertainties described under "Risk Factors" in the Company's Annual Report for the fiscal year ended December 31, 2021, and in the Company's other filings with the SEC. The Company cautions that the foregoing list of factors is not exclusive. The Company cautions readers not to place undue reliance upon any forward-looking statements, which speak only as of the date made. The Company does not undertake or accept any obligation or undertaking to release publicly any updates or revisions to any forward-looking statements to reflect any change in its expectations or any change in events, conditions, or circumstances on which any such statement is based.



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