NEW YORK (April 23, 2020) – Elysium Health, Inc., a life sciences company developing clinically validated health products based on advancements in scientific research, has entered into an exclusive partnership with Yale University to license DNA methylation biomarkers of personalized health and aging and cellular senescence developed by Morgan Levine, Ph.D., assistant professor at the Yale School of Medicine. Dr. Levine joined Elysium Health as its bioinformatics advisor in 2019 to lead the development of the company’s biological age test Index, which utilizes Levine’s technology and is supported by Elysium Health’s algorithmic platform for epigenetic examination (APEX). Unlike earlier epigenetic clocks, which were created to support population-level research, the Elysium Health team worked with Levine to advance the testing methodology to make its application accurate and informative at the individual level.

“In pursuit of our commitment to develop clinically proven, science-based health products, Elysium Health continues to invest heavily in research and development,” said Elysium Health CEO Eric Marcotulli. “With this license from Yale University and through our continued work with Dr. Levine, we are excited to build upon Elysium Health’s intellectual property portfolio to support our leading research position in the field of aging.”

Published biological age applications such as DNA methylation biomarkers—DNAm PhenoAge typically look at hundreds of sites on the genome. To ensure greater accuracy at the individual level, the proprietary measure developed by Levine and the Elysium Health team examines global methylation patterns across more than 100,000 sites. A key consideration for developing the methodology was the need to refine the technology to address the inherent variability of earlier epigenetic age predictors. Later this year, Elysium Health intends to publish the data that supports its methodology in collaboration with Levine to demonstrate that Index is a better predictor of biological age than earlier measures.

“A major hurdle to developing interventions that support long-term health and wellness is the lack of reliable and valid endpoints from which to evaluate potential candidates,” said Elysium Health bioinformatics advisor and Yale School of Medicine assistant professor Morgan Levine, Ph.D. “Historically, chronological age has served as the best estimation of health and aging. However, not all individuals age at the same rate—based on lifestyle factors, demographics, and genetics—and therefore, people of the same chronological age don’t necessarily share the same current health status or future outlook. As such, identifying the underlying mechanisms that control the rate of biological aging, and novel compounds to target them, has the potential to produce enormous personal, societal, and economic impact by improving the overall health outlook. There is growing consensus in the field when it comes to defining the most prominent cellular and molecular hallmarks of aging from which to identify potential compounds to target—one such hallmark is cellular senescence. I am excited to further explore its measurement alongside the Elysium Health team with the goal of making the cellular senescence measure available to everyone through the company’s epigenetic test Index.”

Developing further on APEX, and the Index applications that it supports, Elysium Health plans to commercialize the cellular senescence measure later this year. In addition to biological age and cumulative rate of aging, the new application will provide customers with a measure of their level of senescent cells. Over the past decade, as the understanding of senescent cells and their role in the aging process has grown, senolytic compounds have become a promising target in aging research. In order to create a biomarker to determine the effectiveness of senolytic compounds, Levine developed the DNA methylation biomarker of cellular senescence to measure levels of senescent cells. She is working with the Elysium Health team to further advance the measure and to make its application commercially available. “We’re delighted to collaborate with Elysium Health to advance the use of Dr. Morgan
Levine’s epigenetic research,” said Lolahun Kadiri, M.D., Ph.D., Business Development Associate with Yale’s Office of Cooperative Research.

About Elysium Health™
Elysium Health’s™ mission is to solve the biggest challenges in health with science, to help people lead healthier lives. Working directly with the world’s leading scientists and clinicians, Elysium Health™ is committed to translating critical advancements in scientific research into health solutions people can access today. Learn more at www.elysiumhealth.com.

About Yale University’s Office of Cooperative Research
Since its founding in 1982, the Yale Office of Cooperative Research (OCR) has built a significant portfolio of inventions and patents and has grown into an engine of regional economic development. Its mission is to facilitate the translation of research from Yale’s labs into products and services that benefit society. OCR is recognized as a leading force for catalyzing economic growth by identifying, counseling and nurturing early-stage technologies and guiding the transition into robust companies. More information is available at https://ocr.yale.edu

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