Menssana Research Introduces Breath Test to Predict Lung Cancer

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Fort Lee, NJ, October 15, 2019: Menssana Research, Inc., a leading innovator in diagnostic breath tests, announced today the successful outcome of a clinical trial of their breath test to predict lung cancer.

The US National Cancer Institute funded Menssana Research to perform the research at five leading medical centers: New York University Langone Medical Center in New York, NY; Columbia University Medical Center in New York, NY; MD Anderson Cancer Center in Orlando, FL; Swedish Cancer Institute in Seattle, WA; and Christiana Care in Newark, DE.

In the first phase, Menssana researchers analyzed breath samples from 301 human subjects screened for lung cancer with low dose computerized tomography (LDCT) and lung biopsies. Using a technique called gas chromatography mass spectrometry, they discovered a new lung cancer biomarker in the breath called MAGIIC (mass abnormalities in gaseous ions with imaging correlates).

In the second phase, breath MAGIIC levels were analyzed in a new group of 161 human subjects being screened for lung cancer, but without knowledge of the results of the LDCT or lung biopsy. In this blinded study, the MAGIIC biomarker predicted biopsy confirmed lung cancer with 84% accuracy, as well as LDCT confirmed lung nodules with 80.5% accuracy. These findings were published in the Journal of Breath Research, and presented at the American Thoracic Society's 2019 Conference held in May this year in Dallas, TX.

"There's room to improve lung cancer screening because conventional screening with LDCT is expensive, generates many false positive findings, and subjects patients to a dose of radiation, said Dr. Michael Phillips, developer of the MAGIIC breath test and CEO of Menssana Research. "That's why we, and other researchers, have been working for a long time to develop a breath test for lung cancer. Now, for the first time, we've shown that a breath test can predict lung cancer in a blinded study where we had no knowledge of either the lung biopsy or the LDCT results. A breath test for MAGIIC could potentially detect lung cancer in its earliest and most treatable stages, and save many lives."

Menssana has also developed breath tests for breast cancer, radiation exposure, pulmonary tuberculosis and influenza. Breath tests offer great advantages over traditional x-rays because they are painless, safe, and inexpensive.

"If given the choice, most people would prefer having a breath test to incurring a dose of radiation," Dr. Phillips added.

Dr. Phillips believes that physicians and patients will soon think of a breath test as a convenient tool to screen for several diseases simultaneously, while they are still in their earliest and most treatable stages.

Mass spectrometry instrumentation provided by Agilent Technologies, the world's leading manufacturer of GC-MS systems, is helping to enable Menssana's research in the development of the next generation of breath test for cancers and other diseases.

"We are excited to work with Dr. Phillips and Menssana Research on this project," said Sudharshana Seshadri, senior director of clinical mass spectrometry, Agilent Technologies, Inc. "Agilent's leadership in Mass Spectrometry combined with Menssana's expertise in breath biomarker discovery has enormous potential to bring breath tests into the mainstream of clinical laboratory testing."

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