Mount Sinai
MEDICAL CENTER

Press Release
For Immediate Release

Mount Sinai Medical Center Researcher Co-Authors Peer-Reviewed Study on Inhaled Formulations Designed to Strengthen the Lungs' Natural Defenses

Preclinical research published in AAPS PharmSciTech explores a new approach to clearing pollutants and fine particles from the airways

MIAMI BEACH, FL. – August 26, 2026 - A new peer-reviewed study co-authored by Dr. Juan Sabater, a pulmonary researcher at Mount Sinai Medical Center's Friedman Advanced Research Institute, and Dr. Dale Christensen, Chief Science Officer at Climatic, examines a novel inhaled dry-powder formulation built from natural compounds and designed to support mucociliary clearance, the lungs' primary mechanism for removing pollutants, pathogens, and fine particles from the airways.

The study, "Safety and Efficacy of Inhaled Natural Product Powders That Enhance Mucociliary Clearance," was published in AAPS PharmSciTech, a journal of the American Association of Pharmaceutical Scientists.

Mount Sinai Medical Center collaborated with Climatic on this research, conducted as part of the development of its debut product, L Max, a dry powder formulation of natural ingredients delivered through a proprietary inhalation device. L Max is designed to support the lungs' natural clearance of inhaled particles from everyday environmental exposures.

In preclinical models, the formulation restored impaired mucus clearance in a dose-dependent way, returning it to roughly 80% of its normal rate and holding that effect across the full eight-hour observation window. A separate 28-day inhalation safety study found no adverse effects at any dose tested, with a safety margin more than 11 times the level projected for human use.

"As air quality continues to decline globally, the lungs' natural clearance system has to work even harder at a job it is already performing around the clock—and for many people, that system is already under significant strain," said Dr. Sabater. "What drives this research is the possibility of developing more natural and effective interventions that help the lungs clear harmful particles."

The research arrives as communities across the country experience frequent upticks in wildfire smoke, urban air pollution, and rising levels of fine particulate matter each year. Long-term exposure to PM2.5 has been associated in the scientific literature with reduced lifespan and with a range of cardiovascular, respiratory, and cognitive health effects. The study explores whether supporting the body's own clearance machinery could one day help offset part of that burden.

"Families around the world are breathing in the effects of wildfires and pollution that begin thousands of miles away, and our responsibility is to stay ahead of what that means for their health," said Gino R. Santorio, President and Chief Executive Officer of Mount Sinai Medical Center. "Research like this is how we do that, and it is why we keep investing in the science happening inside our own walls."

"Mucociliary clearance is one of the lungs' most important natural defense mechanisms, yet it's an area that has received relatively little attention as a target for everyday respiratory health," said Dr. Dale Christensen, Chief Scientific Officer at Climatic. "Working alongside Dr. Sabater and the team at Mount Sinai allowed us to rigorously evaluate a novel approach built on supporting the body's own biology. We're encouraged by these findings and believe they represent an important step toward better understanding how to strengthen the lungs' own protective mechanisms."

Dr. Sabater, Director of Pulmonary Research and Associate Vice President of Research at the Friedman Advanced Research Institute, is a board-certified pulmonologist and intensivist with more than 30 years of research experience in respiratory physiology, mucociliary clearance, and inhaled therapeutics.

Dr. Dale Christensen, Chief Scientific Officer at Climatic and Adjunct Associate Professor of Medicine at Duke University Medical Center, is a scientist and biotech executive with more than 25 years of research and development experience in respiratory health, inflammation, central nervous system disorders, anti-infectives, and oncology.

Notes to Editors: The study was published in AAPS PharmSciTech *(2026), vol. 27, article 213. DOI: 10.1208/s12249-026-03454-y.*

###

Mount Sinai Medical Center
Phone: 305-674-2309
Email: amanda.paz@msmc.com

About Mount Sinai Medical Center
Founded in 1949, Mount Sinai Medical Center is the largest independent, private, not-for-profit teaching hospital in South Florida. Mount Sinai's mission is to provide quality health care to a diverse community enhanced through teaching, research, charity care, and financial responsibility. Mount Sinai's Centers of Excellence combine technology, research, and academics to provide innovative and comprehensive care in cardiology, neuroscience, oncology, urology, and orthopedics. One of the original statutory teaching hospitals in the state of Florida, Mount Sinai is the hospital of choice for those who seek the level of expertise and care that only a teaching hospital can offer. Mount Sinai currently offers ten convenient locations in Miami-Dade County, including three emergency centers, and four specialty care offices in Monroe County.

About Climatic
Climatic is revolutionizing respiratory health for the modern world. Its first-of-its-kind system supports the lungs against everyday environmental and lifestyle stressors (air pollution, chronic cough, and smoking), helping to cleanse and clear the airways for easier breathing. The company is backed by more than three years of foundational research, including in vivo findings in partnership with Mount Sinai, and launched L Max, the first daily lung health system, in 2026. Learn more at climatichealth.com.