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THE LUNDQUIST INSTITUTE OUT-LICENSES DEVELOPMENT OF A SYNTHETIC LUNG SURFACTANT FORMULATION

BILL & MELINDA GATES MEDICAL RESEARCH INSTITUTE TO DEVELOP FORMULATION

-AGREEMENT ADVANCES EVOLUTION OF SYNTHETIC LUNG SURFACTANTS TO TREAT RESPIRATORY DISTRESS SYNDROME IN PREMATURE INFANTS IN LOW- AND MIDDLE-INCOME COUNTRIES-

LOS ANGELES (March 8, 2021) — [The Lundquist Institute](#) (TLI) and [The Bill & Melinda Gates Medical Research Institute \(Gates MRI\)](#) executed a license agreement for TLI intellectual property covering a synthetic lung surfactant formulation to be developed for respiratory distress syndrome (RDS) for premature infants in Low- and Middle-Income countries (LMIC). TLI already maintains patents on this invention in the United States, Canada and Europe.

Newborns experiencing RDS must dramatically increase the effort to take each breath, due to lack of adequate, naturally-occurring surfactant production in their lungs. This deficiency of lung surfactant leads to fatigue, episodes of apnea, hypoxia, wasting, and potentially death if untreated. The standard of care is injecting naturally-occurring surfactant, normally animal-derived, into the lungs of preterm babies—a definitive treatment that is lifesaving, but it's only available in specialty newborn care centers such as Neonatal Intensive Care Units.

“Current commercially available surfactants are effective, but have limited use in LMICs owing to the cost and medically intensive delivery methods. This synthetic formulation of lung surfactant has the potential to be a key component in the way we to care for RDS patients born in low-resource settings around the world,” said Jared Silverman, PhD, Head, Translational Discovery, Bill & Melinda Gates Medical Research Institute.

“We are very pleased to have entered into this licensing agreement with the Gates Medical Research Institute,” said David Meyer, PhD, President and CEO of TLI. “This agreement, and the opportunity to see this this significant technology developed to treat respiratory distress syndrome in preterm infants for populations most in need, is what we strive for in our translational and innovative research environment here at the Lundquist.”

The formulation, which was developed by TLI investigators with Dr. Frans Walther as principal investigator, comprises at least one phospholipid and the synthetic peptide B-YL, which is a mimic of the native surfactant protein B.

“Naturally-occurring lung surfactant is a lipid-protein mixture that prevents lung collapse through surface tension reduction,” said Frans Walther, MD, the lead Lundquist Investigator. “Lack of lung surfactant leads to respiratory distress syndrome in premature infants and can be treated with animal-derived surfactant administration into the windpipe. Our research demonstrated that inhalation of a dry powder synthetic lung surfactant formulation with an advanced surfactant protein analog can improve breathing and lung function in surfactant-deficient animals. This discovery suggests that the in-licensed candidate may be effective as an intervention for premature infants who are treated with noninvasive ventilation in low resource settings.”

“From the first lung surfactants used to treat premature babies in the 1980s, to decades of work by Dr. Walther’s research group in developing and formulating candidate synthetic lung surfactants, TLI has always been at the forefront of innovation in this field,” said Rubayath Mohsen, MS, TLI Manager of Business Development and Technology Transfer. “We are elated that Gates MRI is working to develop our novel formulation into a surfactant replacement therapy for improved patient outcomes. Surfactant administration to premature babies is often limited in developing countries due to high costs. The execution of this license with Gates MRI aims to expand access to surfactant therapy, once approved, across developing countries and thereby save lives that otherwise would have been lost.”

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About The Lundquist Institute: Research with reach

[The Lundquist Institute](#) is an engine of innovation with a global reach and a 69-year reputation of improving and saving lives. With its new medical research building, its state-of-the-art incubator, “BioLabs at The Lundquist,” existing laboratory and support infrastructure, and the development of a new 15-acre business tech park, the Lundquist Institute serves as a hub for the Los Angeles area’s burgeoning biotech scene. The research institute has over 100 principal investigators (PhDs, MDs, and MD/PhDs) working on more than 600 research studies, including therapies for numerous, and often fatal orphan diseases.

About Bill & Melinda Gates Medical Research Institute

[The Bill & Melinda Gates Medical Research Institute](#) is a non-profit biotech organization focused on medical research to accelerate product development for diseases and disorders that disproportionately affect the world’s poorest populations—malaria,

tuberculosis, diarrhea and maternal and newborn child health disorders—conditions that combined cause ten deaths every minute.

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