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UT Southwestern collaborates with Pfizer to develop improved RNA Delivery Technologies

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DALLAS – Feb. 12, 2024 – UT Southwestern Medical Center is partnering with Pfizer Inc. to develop RNA-enhanced delivery technologies for genetic medicine therapies through the Dallas-based medical center's Program in Genetic Drug Engineering.

"This collaboration, leveraging transformative chemistry and engineering contributions from Pfizer and UT Southwestern, will advance our fundamental understanding of genetic medicines, expand the use of artificial intelligence (AI) design methodologies, and lead to the development of new delivery technologies for the creation of potential therapies," said the project's Principal Investigator Daniel Siegwart, Ph.D., Director of the Program in Genetic Drug Engineering, Professor of Biomedical Engineering and Biochemistry, and a member of the Harold C. Simmons Comprehensive Cancer Center at UT Southwestern.

This agreement will further UT Southwestern's research and development of cell-targeted nucleic acid and gene editing therapies that Pfizer may apply to its portfolio of investigational programs.

"Collaborations and partnerships are key to further build Pfizer's successful portfolio into RNA-based medicines through the development of new technologies and strategies," said David Morrissey, head of Pfizer's RNA Accelerator. "RNA-based platforms enable genetically driven medicines, and we are looking forward to working together with the UTSW team to explore new delivery systems and therapeutic applications. The UTSW capabilities can help accelerate our RNA medicines portfolio, paving the way for groundbreaking advancements in health care."

The joint effort will bring together UTSW's recent advances in understanding RNA-based biology and improved delivery systems for RNA-based therapies with Pfizer's robust and extensive RNA knowledge, rapid manufacturing capabilities, and scientific innovation. It has the potential to propel the concept of genetic medicines forward into new therapeutic areas.

The Siegwart Lab has worked for more than a decade on developing lipid nanoparticles (LNPs) for the delivery of mRNA, siRNA, genome editors, and other genetic drugs. Dr. Siegwart was an early pioneer in the development of delivery systems for genome editing, reporting the first-ever in vivo CRISPR/Cas edit using synthetic nanoparticles in December 2016. More recently, his team solved a major challenge in nucleic acid delivery, reporting the first predictable system for delivery of mRNA and genome editors outside of the liver, providing a potential path for new lung- and spleen-targeted therapies.

Dr. Siegwart holds the W. Ray Wallace Distinguished Chair in Molecular Oncology Research.

About UT Southwestern Medical Center
UT Southwestern, one of the nation's premier academic medical centers, integrates pioneering biomedical research with exceptional clinical care and education. The institution's faculty members have received six Nobel

Prizes and include 26 members of the National Academy of Sciences, 21 members of the National Academy of Medicine, and 13 Howard Hughes Medical Institute Investigators. The full-time faculty of more than 3,100 is responsible for groundbreaking medical advances and is committed to translating science-driven research quickly to new clinical treatments. UT Southwestern physicians provide care in more than 80 specialties to more than 120,000 hospitalized patients, more than 360,000 emergency room cases, and oversee nearly 5 million outpatient visits a year.