

CV (Short biography)

Jeong-Ho Lee MD PhD

Position: Professor

Affiliation: Korea Advanced Institute of Science and Technology (KAIST)

Prof. Lee is a professor at Korea Advanced Institute of Science and Technology (KAIST) and CEO at Sovargen. He is recognized for his research investigating genetic mutations occurring in a subset of cells in the brain, a phenomenon referred to as brain somatic mutation (or mosaicism). Particularly, prof. Lee studies the genetic mutations in neural stem cells or their progenitor cells in the brain that result in developmental brain disorders. These mutations can cause dysfunction of the entire brain, resulting in epilepsy and tumor formation. His work has also influenced scientific thinking about tumorigenesis and has helped lay the foundation for studying somatic mosaicism in other neurological disorders such as neuropsychiatric and neurodegenerative diseases. Based on his findings, he co-founded Sovargen which develops new RNA therapeutics and diagnostic tools for neurological disorders with somatic mutations.

He has been recognized by various prestige awards, including the Innovators in Science Award of The New York Academy of Science & Takeda 2020, the Kyung-Am award of the Kyung-Am Foundation 2020, the KAISTian of the Year in 2018, the Pediatric Epilepsies Award of Citizens United for Research in Epilepsy (CURE) in 2015.

He received the M.D. degree from Yonsei University College of Medicine, Korea, in 2003. He then received the Ph.D degree from the Department of Pharmacology, Yonsei University College of Medicine in 2009. He got his postdoctoral training at UCSD/HHMI in 2009-2012. He joined KAIST as a faculty in 2012.

Main Scientific Publications

Kim HJ et al. Precancerous cells initiate glioblastoma evolution and contribute to intratumoral Heterogeneity. **Cancer Discov** 2025

Kim J et al. Threshold of somatic mosaicism leading to brain dysfunction with focal epilepsy. **Brain** 2024

Kim MH et al. Low-level brain somatic mutations are implicated in schizophrenia. **Biol Psychiatry** 2021

Koh HY et al. BRAF somatic mutation contributes to intrinsic epileptogenicity in pediatric brain tumors. **Nat Med** 2018

Lee JH et al. Human glioblastoma arises from subventricular zone cells with low-level driver mutations. **Nature** 2018

Lim JS et al. Brain somatic mutations in MTOR cause focal cortical dysplasia type II leading to intractable epilepsy. **Nat Med** 2015