



Greg Lemke, PhD

Chief Science Officer



Greg Lemke, the Françoise Gilot-Salk Chair, is Salk's Chief Science Officer and a professor in the Molecular Neurobiology Laboratory. The Lemke lab uses molecular genetics to study signaling networks that control immune system function and nervous system development. Lemke discovered a family of three receptor tyrosine kinases, called TAM receptors, which play a crucial role in telling immune cells how to handle infection from bacteria, viruses and other pathogens, as well as normal cellular debris. His lab showed how problems with the TAM receptors (called Tyro3, Axl, and Mer) or their pathways are associated with increased levels of drug-resistant cancer as well as inflammation and autoimmune disease such as lupus, multiple sclerosis and rheumatoid arthritis. The team is also interested in the role that dysregulation of the TAM signaling network plays in the course of infection by influenza, West Nile and dengue viruses. Aside from immune function, TAM receptors are involved in the healthy development of the nervous system.

Lemke also focuses on another major family of receptor tyrosine kinases, called Eph receptors. These are some of the earliest to show up in the developing brain of a fetus and help to guide neuronal connections. Eph receptors help neurons—like those that link the eyes to the brain—know where to go as they grow.