



Stanford University Researchers Form Biotech to Develop Cannabis-Based Therapeutics

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Researchers with [Stanford University](#) **Jonathan Rothbard** and **Lawrence Steinman**, [formed](#) **Katexco Pharmaceuticals**. Katexco will focus on developing oral therapies for inflammatory diseases based on cannabis and nicotine receptors.

Katexco will work to develop the first drug to focus on a key receptor on immune cells in the brain. The first primary target indications include gastrointestinal disorders like Crohn's disease, gout and multiple sclerosis.

The startup has exclusive licenses from Stanford University on key technology needed for the development of the drug.

Jonathan Rothbard was at Stanford University Medical School after his post-doctoral fellowship at [Rockefeller University](#). He later headed the Molecular Immunology Laboratory at the **Imperial Cancer Research Fund** in London. He left academia to venture into biotech, helping found [ImmuLogic Pharmaceutical Corporation](#) in Palo Alto, Calif. and to found [Amylin Pharmaceuticals, Inc.](#) in San Diego. He then took another position at Stanford, then founded [CellGate, Inc.](#), returning to Stanford, first in the Department of Chemistry, then Rheumatology, and currently in the Department of Neurology.

Lawrence Steinman conducted his internship and residency at Stanford University Medical School after receiving his MD from [Harvard University](#). From 2003 to 2011 he was chair of Stanford's Interdepartmental Program in Immunology. He is currently the George A.

Zimmerman Endowed Chair in the Neurology Department. He was on the board of directors of **Centocor**, which sold to **Johnson & Johnson** in 1998 for \$4.9 billion. He founded **Neurocrine Biosciences, Inc.** in 1992. He also founded three other biotech companies, **Tolerion**, **Transparency Life Sciences** and **Atreca, Inc.**

“Katexco’s work has clearly established that the brain is hard-wired to the immune system, and the high-level science that has led to the creation of this company came from 10 years of previous in-depth research,” stated Rothbard, who will act as the company’s chief executive officer and chief scientific officer. “Furthermore, the link between the cannabinoid pathway and anti-inflammatory effects is unprecedented, and we are beginning to understand more fully just how the body regulates itself. The goal is to ultimately develop a whole new class of compounds that target several disorders with anti-inflammatory indications.”

Steinman’s work led to the development of **Biogen**’s Tysabri (natalizumab), a drug for multiple sclerosis and Crohn’s disease.

Another of the company’s co-founders is **Sir Marc Feldmann**, who is chairman of Katexco’s advisory board. Currently a professor at the **University of Oxford**, he is a leading researcher behind understanding the role of cytokines in the immune system, and the discovery and use of Tumor Necrosis Factor and the development of rheumatoid arthritis drug Johnson and Johnson’s Remicade (infliximab).

The fledgling company’s research partners include Stanford School of Medicine and **Evotec AG**

Katexco notes that medical marijuana has been proven effective for the treatment of inflammatory and autoimmune diseases. Behind that is the endocannabinoid system, lipid-based retrograde neurotransmitters that bind to cannabinoid receptors. Cannabinoid receptor proteins are expressed throughout the mammalian central nervous system, including the brain, and the peripheral nervous system.

Katexco plans to harness the properties of the endocannabinoid system and the nicotine receptor system (nAChRs), which respond to the neurotransmitter acetylcholine.

“Katexco is confident that we will be successful since we are stimulating a naturally occurring neuro-immunological pathway that will allow our treatment to be safe, widely effective and significantly more cost-effective, compared with current therapies for inflammatory diseases,” Steinman stated. “Additionally, given that the medical cannabis industry is currently valued at \$14.3 billion and estimated to reach a market value of \$74.3 billion by 2027—coupled with cannabis’ enormous therapeutic benefits across the board—Katexco’s work is a game-changer for both doctors and patients across the world.”

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