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*2004 Program  
New Investigator (3-year project)*

**Project Title:** Novel Neurotensin Analog to Treat Nicotine Dependence

**Project Summary:** Cigarette smoking has been proven to be a cause of various diseases and a contributory factor in many deaths. Nicotine is the substance in cigarettes that causes addiction. Although cigarette smoking is decreasing, smokers who try to quit find themselves negatively affected by the addictive properties of nicotine, which consequently causes a return to smoking. This pattern is markedly true among people who suffer from mental illness. A new drug for nicotine addiction, developed in Mayo's laboratory, will be tested on rat models. The brains of those rats will be analyzed to explore the changes that occur in the brains due to nicotine use. These changes cause people to become addicted to cigarettes. Knowing the changes that happen in the brain due to smoking will help researchers develop medications targeted to switch back the brains of cigarette users to a normal state.