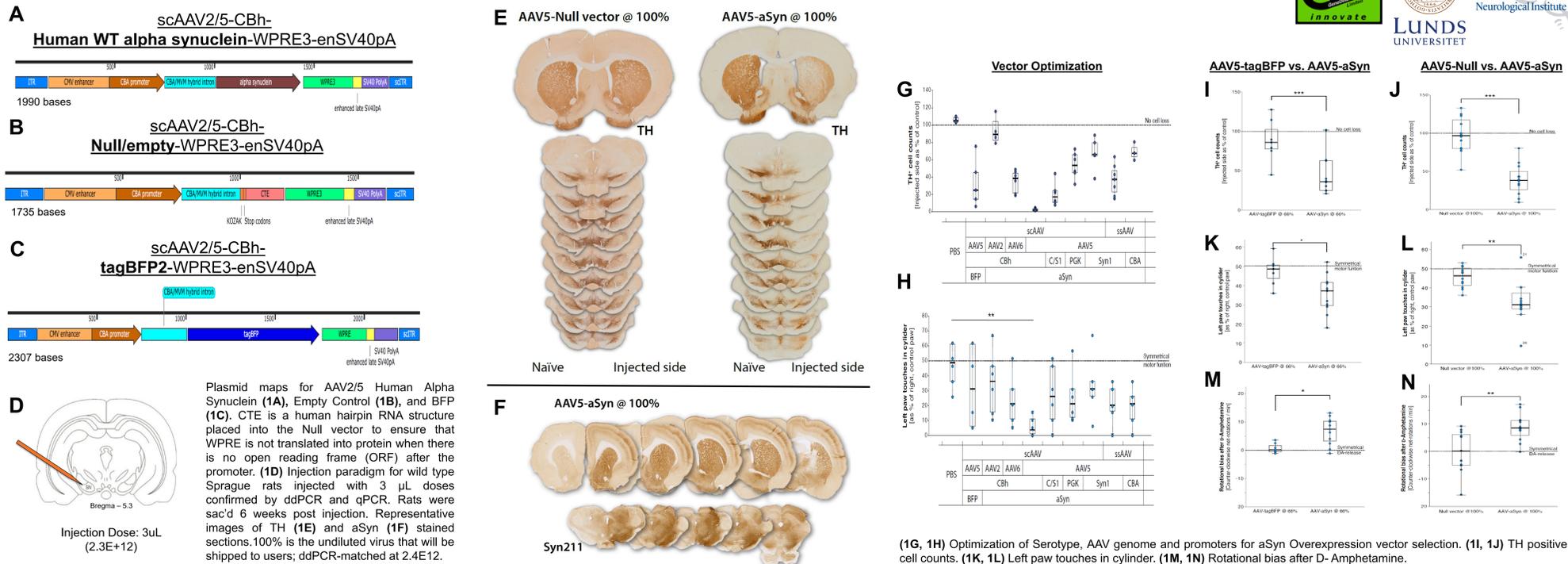


# The Michael J. Fox Foundation's Development and Distribution of Novel Alpha-Synuclein Viral Vectors to Study Parkinson's disease.

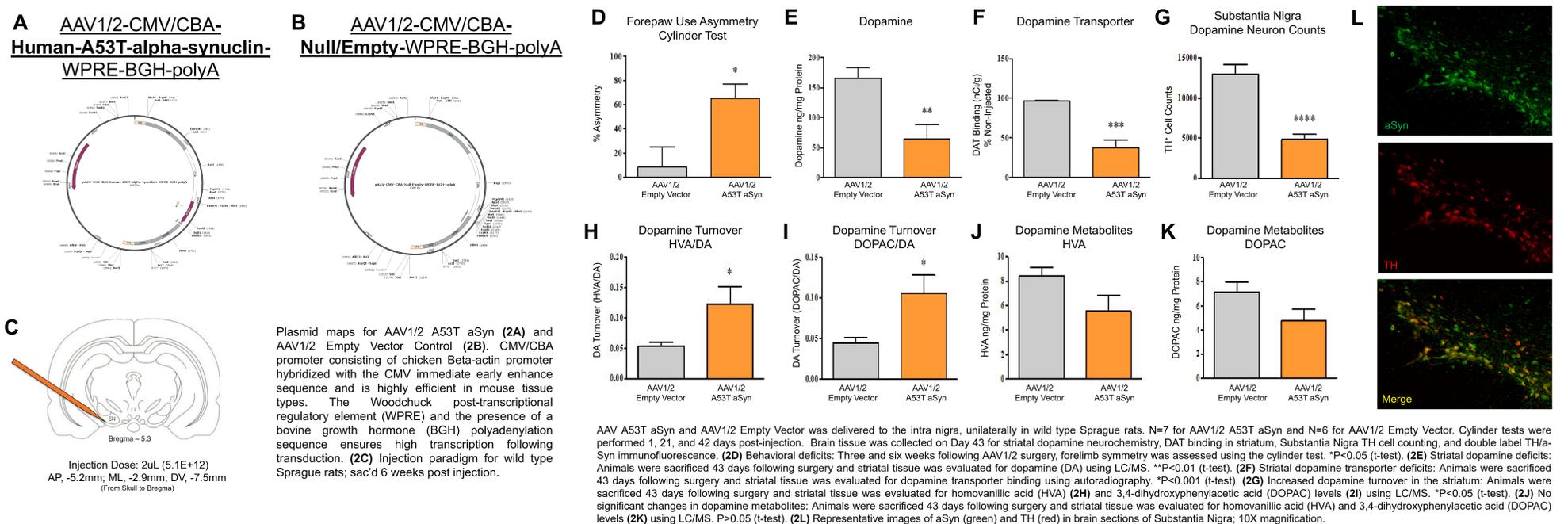
## Introduction

Alpha synuclein (aSyn) plays an important role in Parkinson's disease (PD) with pathological changes of the protein observed in PD patients and mutations/multiplications in the gene leading to PD. Commonly used rodent models overexpress wildtype and mutant forms of aSyn and have been helpful in understanding molecular mechanisms and the role of aSyn in PD pathogenesis. However, the lack of comparable phenotypes makes it challenging to reproduce PD in animal models. Therefore, it is important to have preclinical tools that best suits the scientific questions we want to answer to further our understanding of aSyn biology to develop and evaluate potential therapies for targeting aSyn aggregation. The Michael J. Fox Foundation for Parkinson's Research (MJFF) sponsors the development of resources for PD research and drug development communities that endeavors to provide researchers with easy access to rigorously validated preclinical tools for their studies. Here, we present novel viral vectors from the MJFF preclinical tools portfolio that utilize human aSyn to serve as a platform for PD model development.

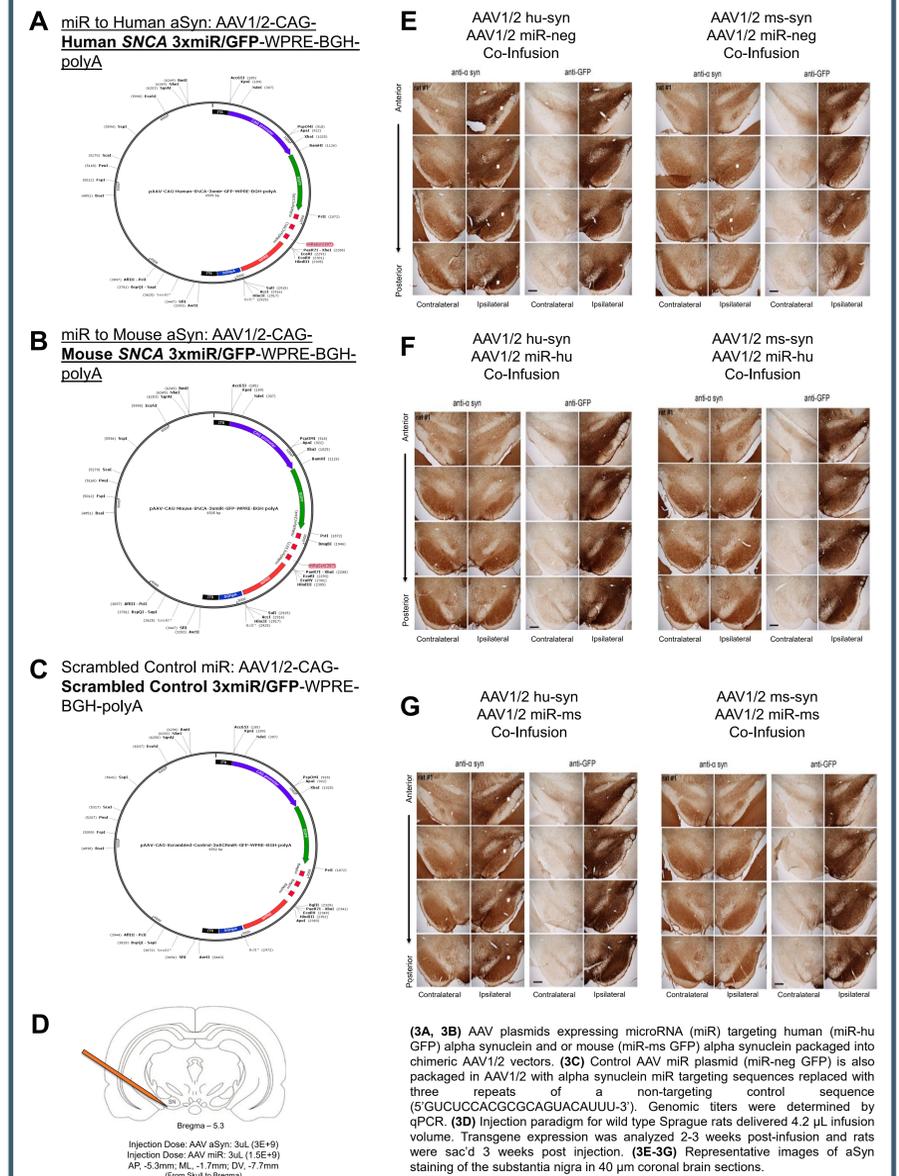
## 1. Validation and Characterization of Human AAV-aSyn as a Model of Nigrostriatal Degeneration



## 2. Functional Validation of AAV1/2 Human A53T aSyn and AAV1/2 Empty Vectors



## 3. SNCA miR Viral Vectors Designed to Reduce Human/Mouse aSyn Expression



## Summary and More Information

MJFF is invested in providing the PD research community with high-quality tools and models to support rapid new discoveries and encourage reliable, reproducible data. The tools described in this poster are the result of recent collaborative efforts aimed at generating research-enabling molecular tools to advance Parkinson's disease research.

Information on other tools for PD-related targets can be found in the Research Tools Catalog at [www.michaeljfox.org/toolscatalog](http://www.michaeljfox.org/toolscatalog). Questions regarding MJFF preclinical tools can be sent to [tools@michaeljfox.org](mailto:tools@michaeljfox.org).