

# RADIOTRACERS TO DETECT EARLY PARKINSON'S DISEASE

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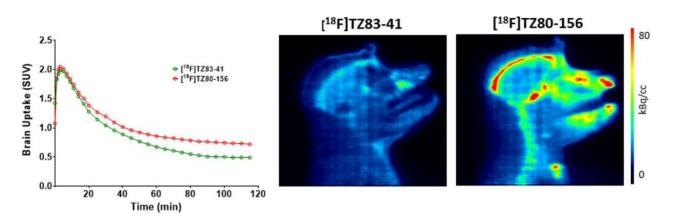
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## Radiotracers to detect early Parkinson's disease

## **Technology Description**

Researchers at Washington University in St. Louis, led by Dr. Zhude Tu, have developed two imaging agents for  $\alpha$ -synuclein ( $\alpha$ -syn) aggregation for use to diagnose early Parkinson's disease, track disease progression, and assess efficacy of disease-modifying therapies. Data showed these imaging agents had high brain uptake, suitable brain washout pharmacokinetics, and, more importantly, no presence of lipophilic radio-metabolites in the brain confounding the PET measurement.

The aggregation of misfolded  $\alpha$ -syn is a pathological hallmark of Parkinson's disease; however, no reliable imaging biomarker is currently available for  $\alpha$ -syn.



Above: PET characterization of radioligands in the macaque brain. Left: Time-activity curve for microPET study in the brain, SUV: standardized uptake value; Right: Representative PET images of two radiotracers in the macaque brain, weighted average of 0-120 min.

### **Stage of Research**

• Proof of concept has been demonstrated in vivo with murine and non-human primate models

## **Publications**

Yanbo Yu, et al., <u>Radiosynthesis and biological evaluation of two <sup>18</sup>F-labeled PET radioligands for α-synuclein</u>. JNM, Vol. 64, Issue supplement 1, (2023)



### Applications

- Diagnostic for early Parkinson's disease
- Together, these agents with high potency and selectivity for  $\alpha$ -syn have great potential to being a therapeutic drug that targets  $\alpha$ -syn

### **Key Advantages**

• Early diagnosis, specific, crosses blood-brain barrier, favorable washout kinetics

#### Patents

• Pending

## **Related Web Links**

• Dr. Zhude Tu, Profile