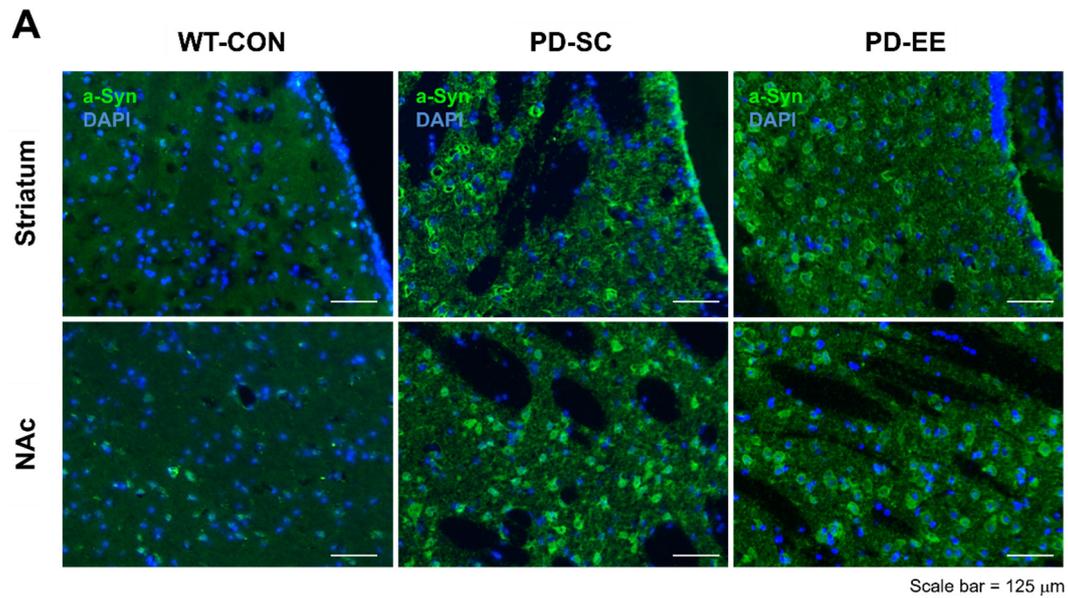


Supplementary Figure



**Figure S1.** The total  $\alpha$ -synuclein ( $\alpha$ -Syn) in the striatum and nucleus accumbens (NAC) of human A53T  $\alpha$ -Syn mice. The PD group showed a significant increase in the expression of  $\alpha$ -Syn compared to the WT control group. (A) Scale bar = 500  $\mu$ m. (B) Scale bar = 125  $\mu$ m. (C) Scale bar = 10  $\mu$ m.

## Supplementary Materials and Methods

### 1. Immunohistochemistry (IHC)

The animals were euthanized and perfused with 4% paraformaldehyde (PFA) in 0.1 M phosphate buffer, pH 7.4. Their brains were removed and post-fixed for 1 h, followed by cryoprotection in 30% sucrose in TBS containing 0.02% sodium azide. The harvested brain tissues were cryo-sectioned at a thickness of 16  $\mu\text{m}$  along the sagittal or coronal plane, and IHC analysis was performed on four sections. For immunofluorescence double labeling, the sections were stained with the following antibodies: antibodies against  $\alpha$ -Syn (1:200, Abcam, ab138501, Cambridge, UK) and secondary antibody, Alexa Fluor® 488 goat anti-rabbit (1:400, Invitrogen, A110088, Carlsbad, CA, USA). The sections were mounted on glass slides with fluorescent mounting medium containing 4',6-diamidino-2-phenylindole (Vector, H-1200; Vector, Burlingame, CA, USA). The stained sections were examined using a fluorescence microscope (Axio Imager M2, Zeiss, Gottingen, Germany) and a confocal microscope (LSM700, Zeiss, Gottingen, Germany).