

**Supplementary Table 1. Antibodies used in this study.**

Antibodies	Source/Cat. No.	Host	Dilution
Tyrosine hydroxylase (TH)	Proteintech (25859-1-AP)	Rabbit	1 : 1,000 (WB) 1 : 1,000 (IHC)
$\alpha$ -synuclein ( $\alpha$ -syn)	Proteintech (10842-1-AP)	Rabbit	1 : 1,000 (WB) 1 : 200 (IF)
Glucagon-like peptide 1 receptor (GLP-1R)	Proteintech (26196-1-AP)	Rabbit	1 : 1,000 (WB) 1 : 500 (IHC)
Fatty acid receptor 3/GPR41 (GPR41)	Proteintech (66811-1-Ig)	Mouse	1 : 1,000 (WB) 1 : 200 (IHC)
GPR43	Thermo (PA5-111780)	Rabbit	1 : 200 (WB) 1 : 200 (IHC)
Zonula occludens-1 (ZO-1)	Proteintech (21773-1-AP)	Rabbit	1 : 500 (WB)
Occludin	Proteintech (13409-1-AP)	Rabbit	1 : 1,000 (WB)
$\beta$ -actin	CST (4970S)	Mouse	1 : 1,000 (WB)
Dopamine transporter DAT	Proteintech (22524-1-AP)	Rabbit	1 : 1,000 (WB)
Parkin RBR E3 ubiquitin-protein ligase (Parkin)	Proteintech (14060-1-AP)	Rabbit	1 : 1,000 (WB)
LC3B	CST (43566)	Rabbit	1 : 1,000 (WB) 1 : 6,400 (IF)
p62	CST (5114)	Rabbit	1 : 1,000 (WB)
PTEN-induced kinase 1 (PINK1)	NOVUS (BC100-494)	Rabbit	1 : 1,000 (WB)
Beclin-1	CST (3495S)	Rabbit	1 : 1,000 (WB)
LAMP1	Abcam (ab208943)	Rabbit	1 : 1,000 (WB)
Atg7	Abcam (ab133528)	Rabbit	1 : 1,000 (WB)