Supplementary Material



**Supplementary Figure 1: Class-IIa HDAC expression in SH-SY5Y cells.**

(A) RT-PCR showing the expression of HDAC4, 5, 7 and HDAC9 in SH-SY5Y cells along with b-actin as a control. (B) Representative photomicrographs of SH-SY5Y cells immunocytochemically stained for the HDAC4 (red) or HDAC7 (red) with DAPI (blue). Scale bar = 10 μm.



**Supplementary Figure 2: Reduced HDAC expression by HDAC siRNA in SH-SY5Y cells.**

Graph showing the quantification of HDAC5 and HDAC9 expression in SH-SY5Y cells, 24h post-transfection with 25nM of siRNAs against HDAC5 (siHDAC5) or HDAC9 (siHDAC9) compared to cells transfected with a scrambled control siRNA (siSCR). Data are presented as the mean ± SEM as a percentage of the GFP control of *n* = 3 independent experiments. \**p* < 0.05, \*\**p* < 0.01, \*\*\**p* < 0.001 vs Control; ###*p* < 0.001 vs siSCR plus WT or A53T α-synuclein: One-way ANOVA with Tukey’s *post hoc* test.