Supplemental materials:

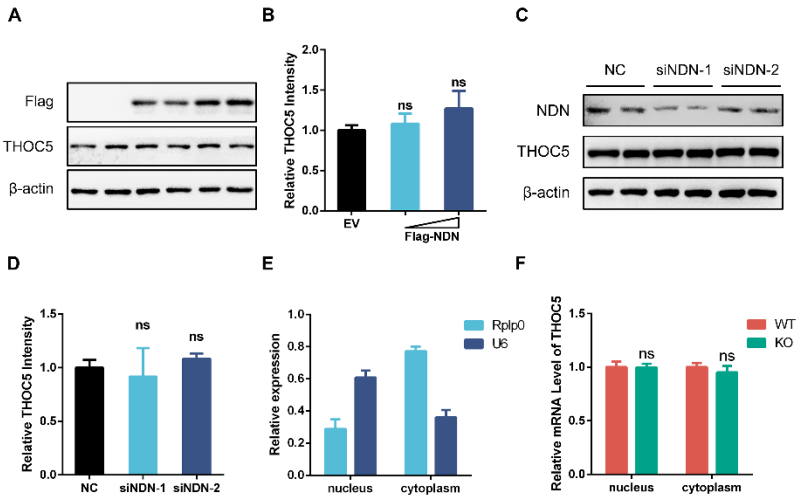

Figure S1 (a,b) Representative immunoblots (a) and statistics data of three independent experiments (b) from U2OS cells transfected with different doses of necdin or empty vector (EV). (c, d) Representative immunoblots (c) and statistics data (d)of three independent experiments from U2OS cells transfected with control siRNA (NC) or NDN siRNAs. (e) The mRNA expression of U6 and Rplp0 after nuclear-cytoplasmic separation. (f) The mRNA expression of THOC5 after nuclear-cytoplasmic separation. Data were mean ± SEM, n = 3, *p < 0.05, **p < 0.01, unpaired t-test.

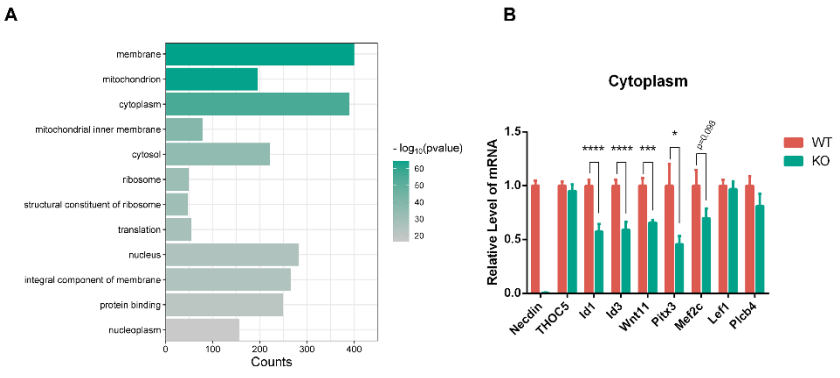

Figure S2 (a) Analysis of KEGG pathway of up-regulated differentially expressed genes. (b) The genes associated with DA neuron development and THOC5 target genes in the cytoplasm of WT and KO mice were detected by qPCR, as well as control transcripts. Data were mean ± SEM, n = 6, *p < 0.05, **p < 0.01, unpaired t-test.

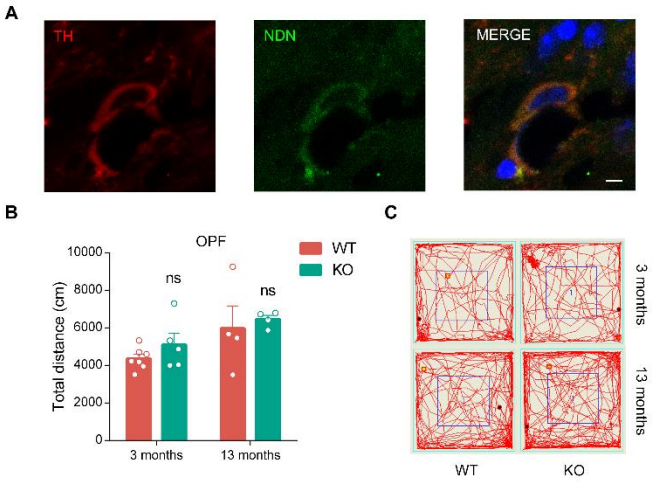

Figure S3 (a) Expression of necdin (green) and TH (red) in the VTA using immunofluorescence staining. Scale bar, 50μm. Scale bar, 5μm. (b) There was no significant change in the distance traveled by *necdin* knockout mice in OFT compared to WT controls. Data were mean ± SEM, n = 4–7 mice/genotype, *p < 0.05, **p < 0.01, unpaired t-test. (c) The representative movement traces of animals in the OFT.