

Supplemental figure legends

Supplemental Fig 1. Formation of a stable complex between α -synuclein and DAT has been further confirmed by co-immunoprecipitation experiments [27-28], and also verified in the present study. Note that total DAT levels do not change in the presence or absence of α -synuclein.

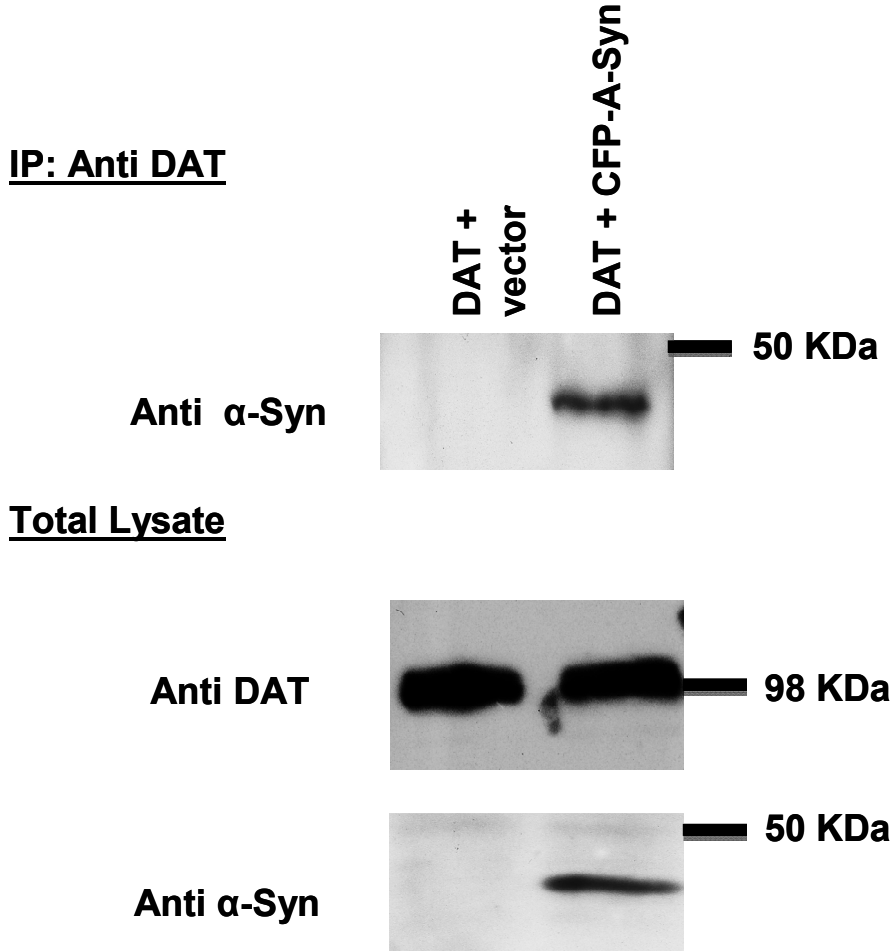
Supplemental Fig 2. Western blotting of α -synuclein protein. *A)* Serial dilution of recombinant α -synuclein protein (0.01–0.2 μ g) was loaded across the lanes and probed by Western analysis. *B)* Standard curve generated from the densitometric values obtained from digitized film of the immunoblot. A linear relationship between optical density and the amount of recombinant α -synuclein protein exist with a correlation coefficient of 0.95. The lower (~19 kDa) and higher molecular weight species (~37 kDa) of recombinant human α -synuclein peptide are shown. *C)* Representative blots with an antibody against α -synuclein show 19 kDa bands in mouse midbrain region but not in 1RB3AN27-DAT cell, YFP-DAT-CHO cells. *D)* Consistent with the literature, presence or absence of endogenous levels of alpha-synuclein does not influence DAT-mediated current.

Supplemental Fig 3. Compared to the absence of α -synuclein, the intracellular α -synuclein increased the magnitude of currents at -80 mV and -100 mV about 3.9 and 3.3 fold, respectively. The whole-cell currents measured in Fig 2 are normalized for a fixed potential of +60 mV.

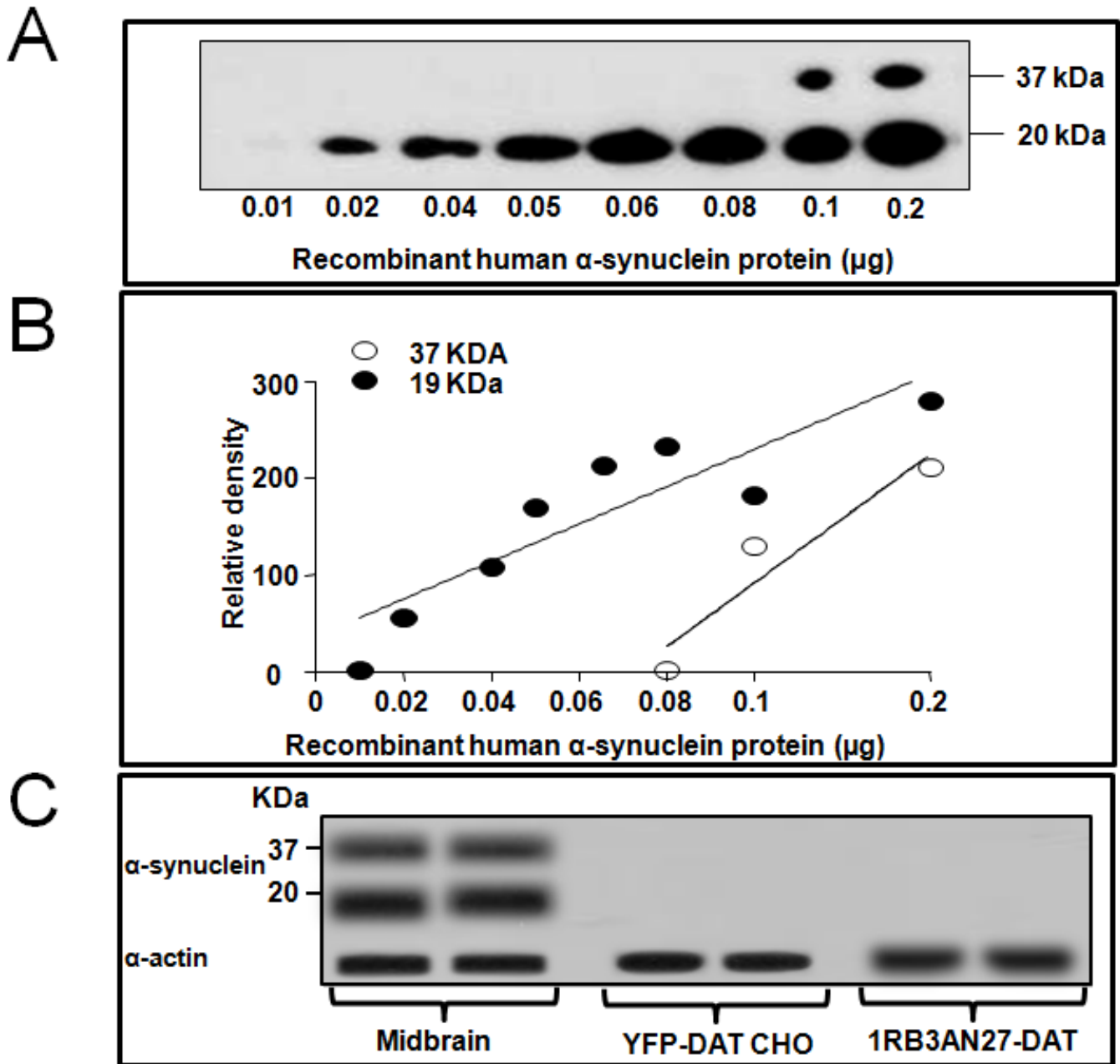
Supplemental table 1. Tested at multiple concentrations, uptake rate of ASP^+ is decreased in cells expressing α -synuclein relative to cells not expressing α -synuclein. Symbol * details a significant difference ($P < 0.05$) in uptake rate between cells expressing α -synuclein relative to cells not expressing α -synuclein at the respective concentration.

Supplemental table 2. Rate of uptake of DAT substrate ASP^+ (2 μ M) is decreased in a concentration dependent manner by dopamine. In addition, in these experiments the rate of uptake of ASP^+ is decreased in cells expressing α -synuclein relative to cells not expressing α -synuclein. Symbol * details a significant difference ($P < 0.05$) in uptake rate between cells expressing α -synuclein relative to cells not expressing α -synuclein at the respective concentration

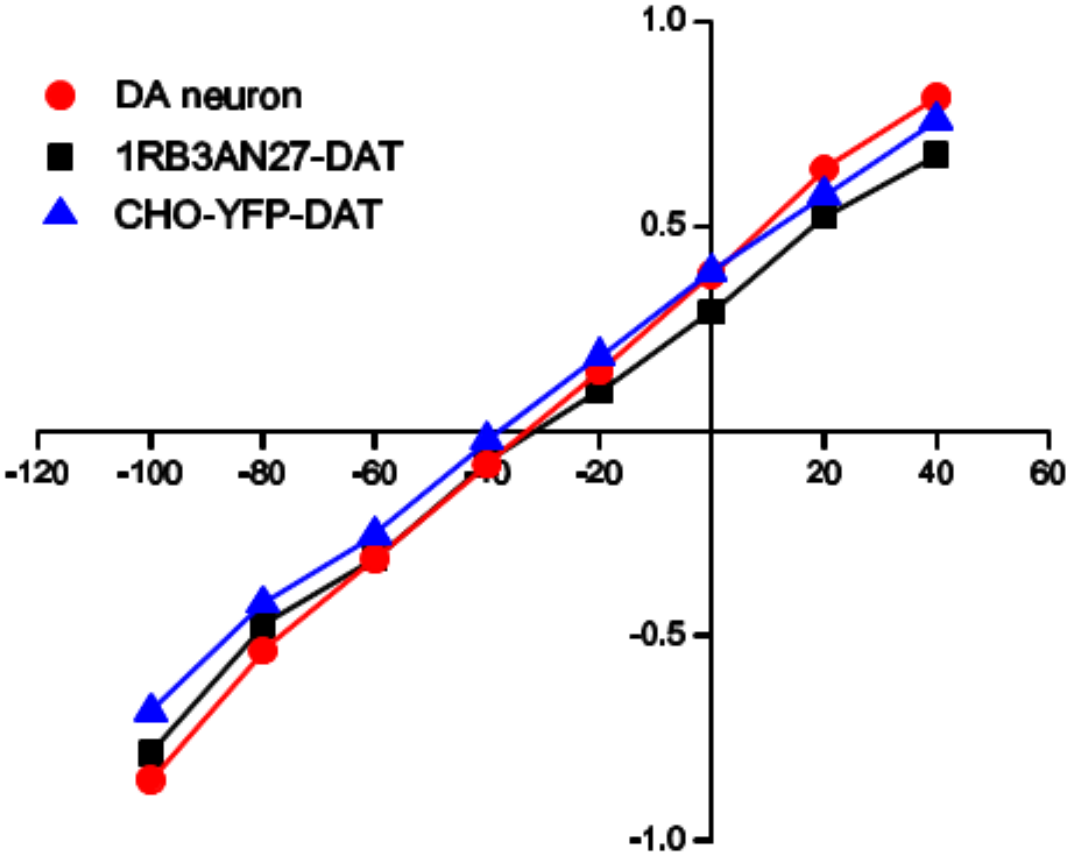
Supplemental Figure 1



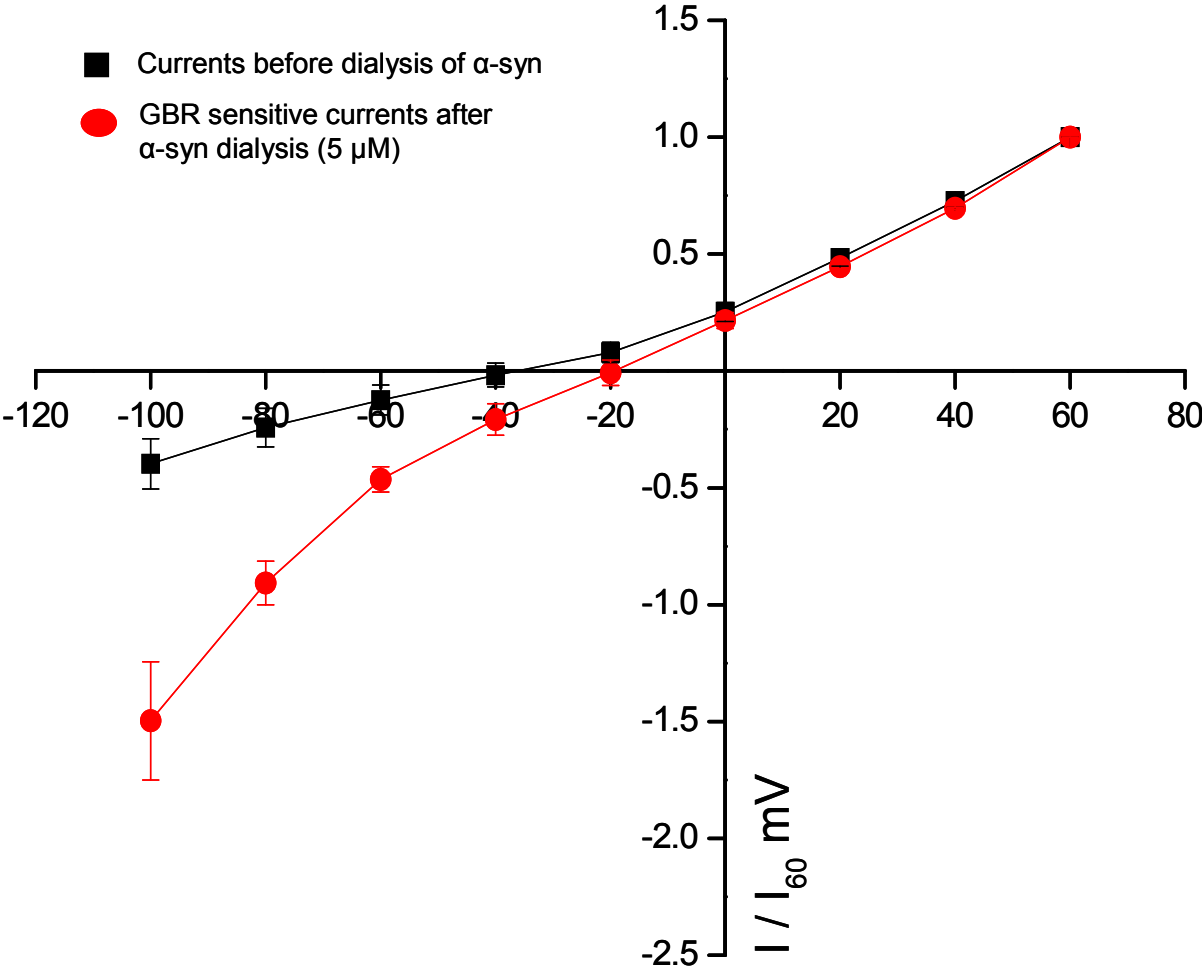
Supplemental Figure 2



Supplement Figure 2D



Supplemental Figure 3



Supplemental table 1: Rate of ASP⁺ uptake is decreased in cells expressing DAT and α -synuclein at multiple concentrations.

[ASP+] (μM)	uptake rate no syn x 10³ \pm SEM (n)	uptake rate with syn x 10³ \pm SEM (n)	F(17,4788) =
10	11.80 \pm .038 (24)	6.64 \pm .013 (10)	5.247*
8	7.30 \pm .033 (28)	3.95 \pm .029 (11)	44.5*
6	5.00 \pm .019 (76)	4.32 \pm .032 (18)	19.95*
2	2.17 \pm .019 (78)	1.74 \pm .031 (23)	9.356*
0.2	0.60 \pm .011 (22)	0.02 \pm .007(13)	8.03*
0.02	0.30\pm .006 (26)	-0.17 \pm .007 (12)	0.4878

Supplemental table 2: Uptake rate of ASP⁺ in the presence of increasing DA.

log [DA]	uptake rate no syn x 10³ \pm SEM (n)	uptake rate with syn x 10³ \pm SEM (n)	F(11,3192) =
-4	1.1 \pm .019 (48)	0.95 \pm .043 (7)	49.76*
-5	0.69 \pm .022 (132)	0.08 \pm .067 (8)	67.92*
-6	2.79 \pm .019 (63)	2.35 \pm .022 (9)	22.39*
-7	3.69 \pm .028 (98)	2.19 \pm .017 (11)	39.11*
-8	3.94 \pm .033 (69)	2.14 \pm .021 (20)	44.16*
-9	4.57 \pm .063 (26)	1.59 \pm .050 (18)	46.58*