Supporting Information

A dominant dendrite phenotype caused by a patient mutation in Doublecortin (DCX) is separable from its endocytosis defect.

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Material included:

One supporting figure to show quantification of DCX levels in experimental assays used in Figures 1, 4, 5, and 6.

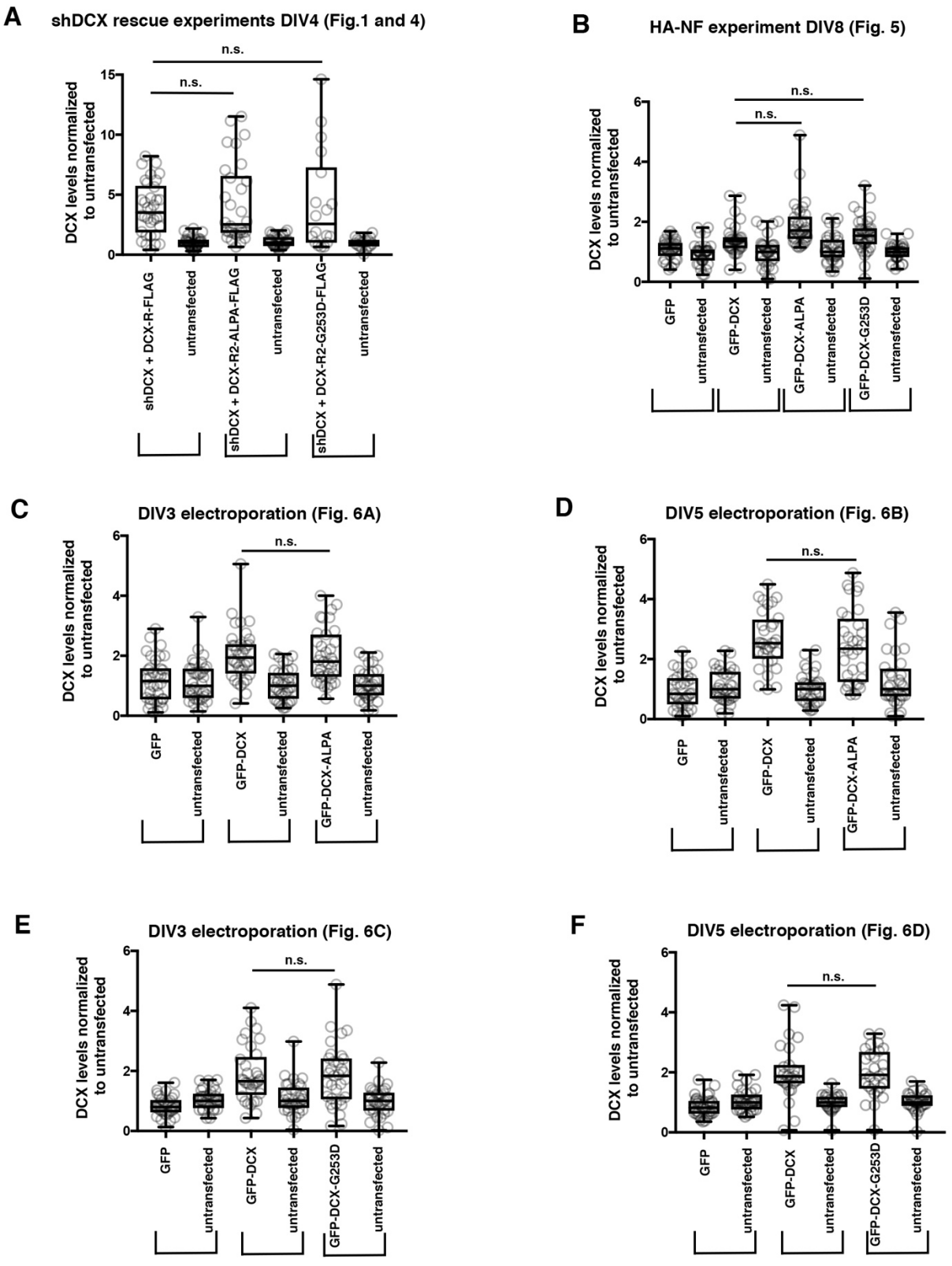
A
shDCX rescue experiments DIV4 (Fig.1 and 4)
DCX levels normalized to untransfected
n.s.
n.s.
shDCX + DCX-R-FLAG
untransfected
shDCX + DCX-R2-ALPA-FLAG
untransfected
shDCX + DCX-R2-G253D-FLAG
untransfected
B
HA-NF experiment DIV8 (Fig. 5)
DCX levels normalized to untransfected
n.s.
n.s.
GFP
untransfected
GFP-DCX
untransfected
GFP-DCX-ALPA
untransfected
GFP-DCX-G253D
untransfected
C
DIV3 electroporation (Fig. 6A)
DCX levels normalized to untransfected
n.s.
GFP
untransfected
GFP-DCX
untransfected
GFP-DCX-ALPA
untransfected
D
DIV5 electroporation (Fig. 6B)
DCX levels normalized to untransfected
n.s.
GFP
untransfected
GFP-DCX
untransfected
GFP-DCX-ALPA
untransfected
E
DIV3 electroporation (Fig. 6C)
DCX levels normalized to untransfected
n.s.
GFP
untransfected
GFP-DCX
untransfected
GFP-DCX-G253D
untransfected
F
DIV5 electroporation (Fig. 6D)
DCX levels normalized to untransfected
n.s.
GFP
untransfected
GFP-DCX
untransfected
GFP-DCX-G253D
untransfected

Figure S1

Figure S1: *Staining against DCX to compare overexpression levels across experimental assays using WT DCX and mutant DCX (relates to Figures 1, 4, 5, 6).*

Anti-DCX antibody was used for immunostaining of neuronal cultures. DCX intensity was quantified in the soma of untransfected neurons and of transfected neurons in the same field. Measurements were normalized to untransfected neurons. Kruskal-Wallis test followed by multiple comparison test was used for all data sets. Not significant data sets are designated with "n.s.". Box plots are used to show median, 25-57% range and total range of the data points. 25-40 cells were quantified for each data point.
(A) DIV4 neurons were stained after 3 days of transfection. Plasmids were shDCX#2-GFP with either WT DCX-R2-FLAG, DCX-R2-ALPA-FLAG, or DCX-R2-G253D-FLAG. These conditions match the rescue experiments in Figure 1 and Figure 4.
(B) DIV7 neurons were transfected with the indicated plasmids and fixed at DIV8. These conditions match the experiments in Figure 5.
(C-F) Dissociated neurons were electroporated prior to plating with the indicated plasmids and fixed at DIV3 (C,E) or DIV5 (D,F). These conditions match the experiments in Figure 6.