

Supporting information

Real-time PCR

RNA was extracted from cell homogenates using TRIzol (Invitrogen). Removal of residual DNA was performed with RNase free DNase (Roche Applied Science). cDNA (20 µl) was prepared from 1 µg of RNA using random primers and M-MLV reverse transcriptase (Invitrogen). One microliter of the cDNA solution was then used together with gene specific primers (Supplementary Table 4) and the Light Cycler TaqMan Master kit (Roche Applied Science) following the manufacturer's protocol. The housekeeping gene RNAPolIII was used as an endogenous control. Real-time quantitative PCR was performed using a Light Cycler 2.0 sequence detection system with 26 capillary format. PCR cycling conditions were: 95°C for 15 minutes, 40 cycles of 95°C for 20 seconds and 60°C for 1 minute. PCR data were obtained with the Light Cycler Probe design software version 4.1 (Roche Applied Science) and quantified by a standard curve method (Livak & Schmittgen 2001).

References

Livak, K. J. and Schmittgen, T. D. (2001) Analysis of relative gene expression data using real-time quantitative PCR and the 2(-Delta Delta C(T)) Method. *Methods*, **25**, 402-408.

Supplementary Figure 1: DISC1 knockdown expression in neuron primary cell culture. Western blot analysis and densitometric analysis. *** $p < 0.001$ using paired t test.

Supplementary Figure 2: Representative gel obtained during the proteomic analysis. Identified spots with a fold-change > 2 appear highlighted with their mass spectrometry identification number. a) Bidimensional gel image b) Zoom of the lower left corner of the gel.

Supplementary Figure 3: Classification of the proteins identified in the proteomic study according to their functions.

Supplementary Figure 4: DISC1-silenced cells have altered morphological and reduced neurite outgrowth. Representative bright field images for control and DISC1-silenced stable cell lines treated with retinoic acid (RA) for 7 days.

Supporting Tables

Table S2: shRNAs used to silence DISC1 in SH-SY5Y cells

NAME	shRNA commercial REFERENCE	SEQUENCE
SILENCED 1	TRCN0000118997	5'-CCGAGGAGATTAGATCATTAAAC-3'
SILENCED 4	TRCN0000119000	5'-CGATTGCTTATCCAG-3'

Table S3: shRNA used to silence DISC1 in neurons

shRNA	SEQUENCE
DISC1 shRNA#1	5'-GGCAAACACTGTGAAGTGC-3'

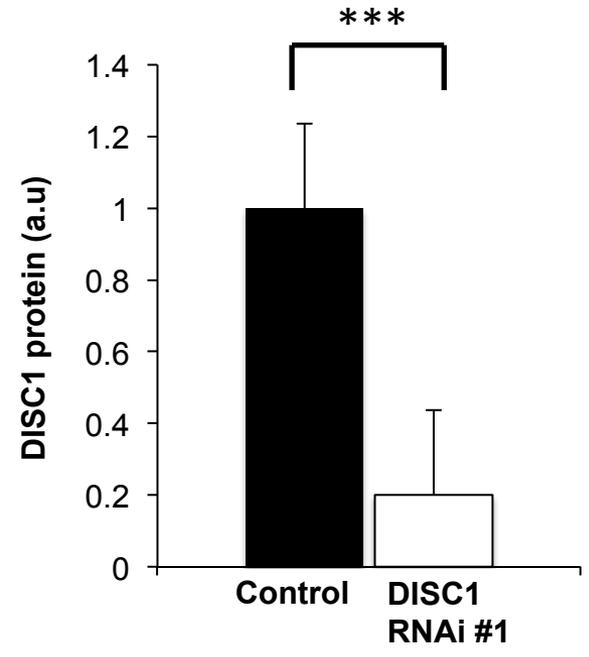
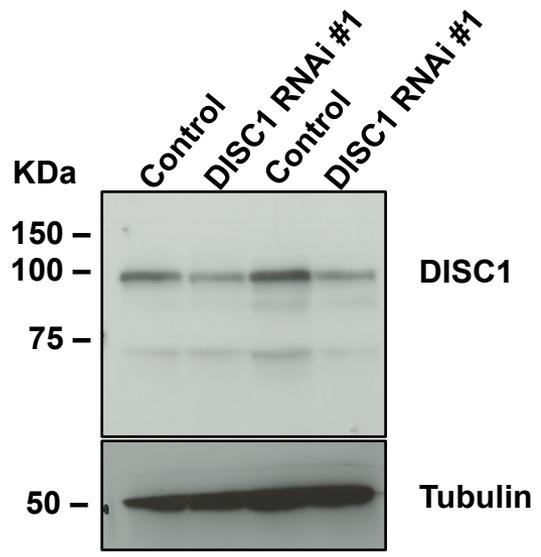


Figure S1

MW
200

15

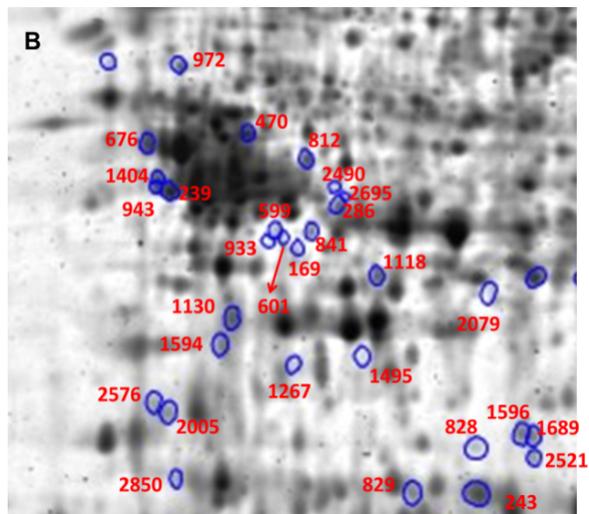
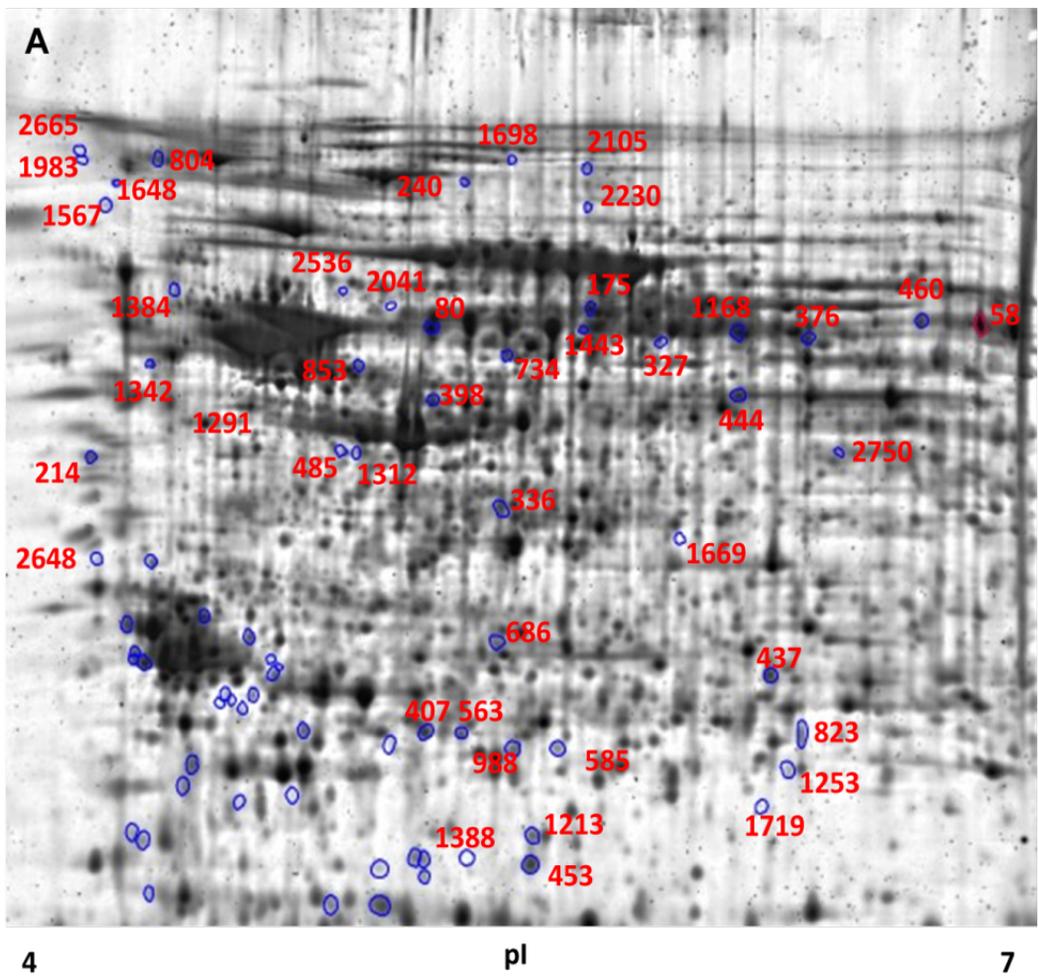


Figure S2

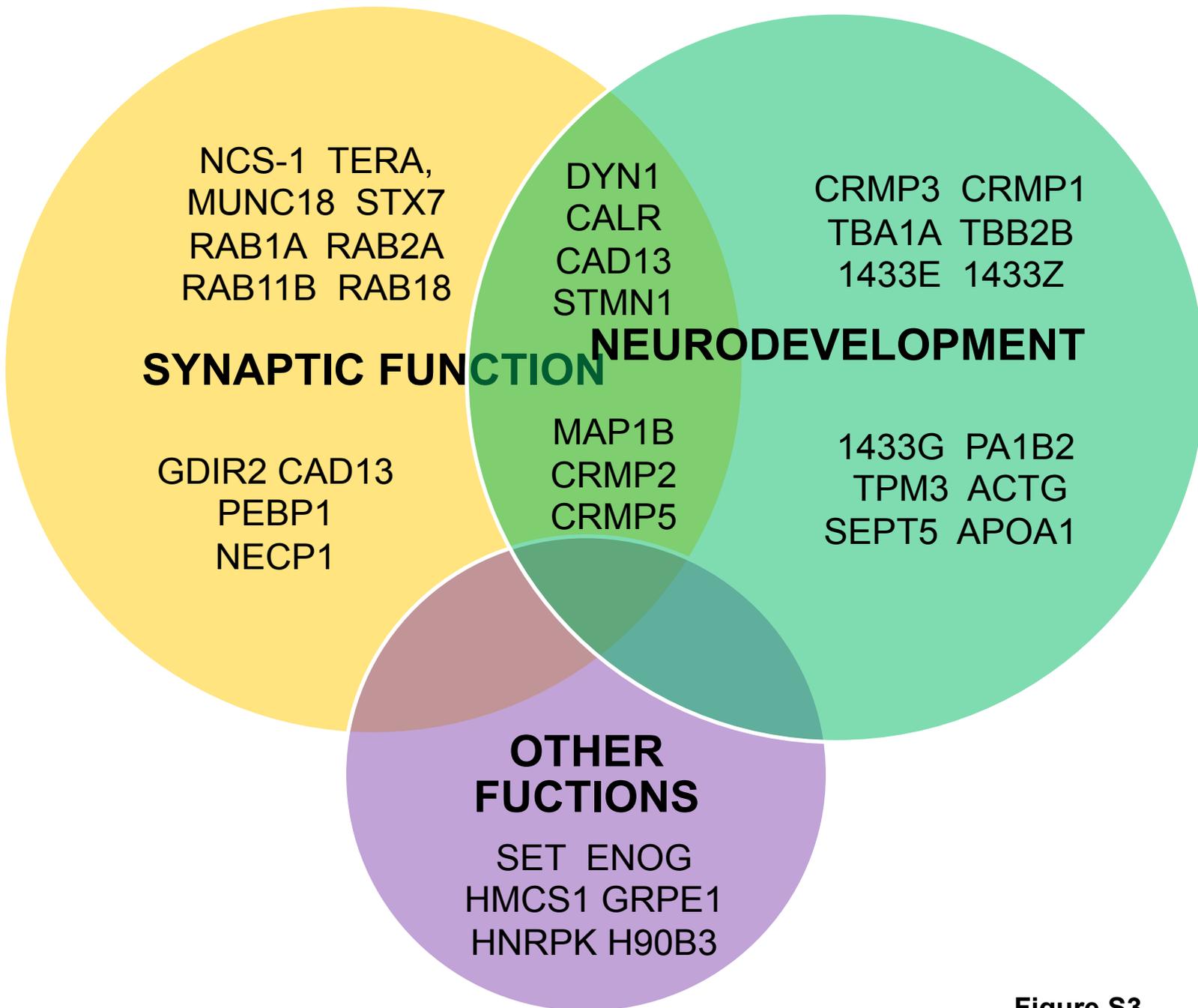
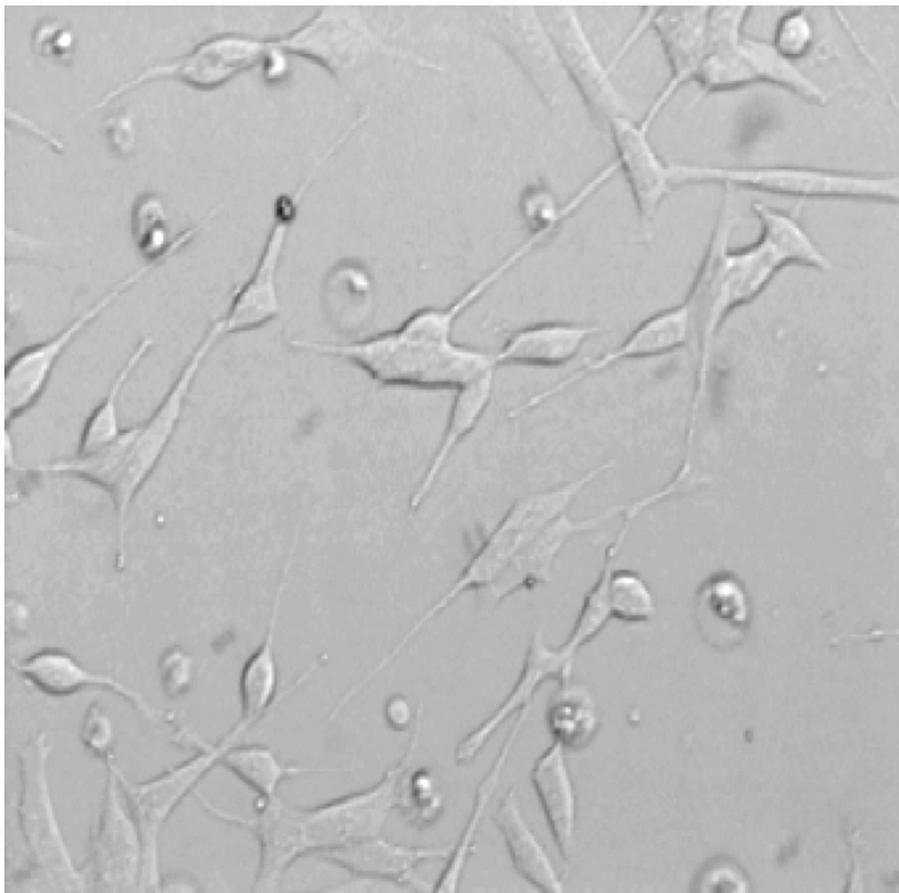


Figure S3

Control



Silenced 1

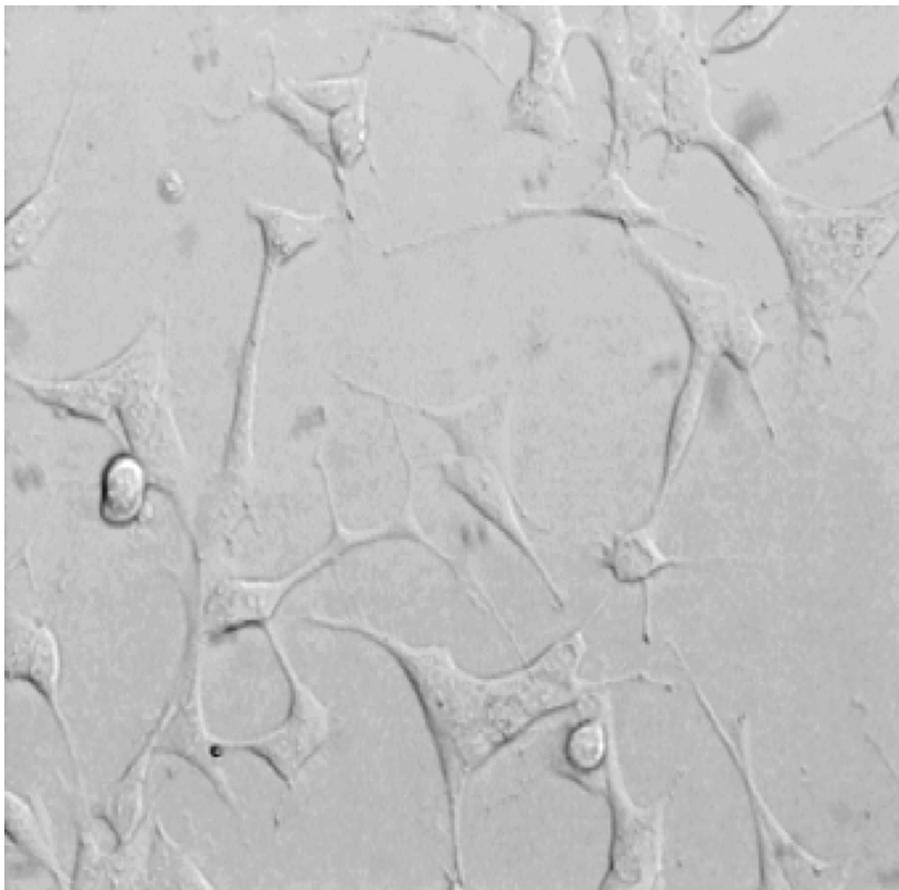


Figure S4