



Supplementary information, Figure S1 Endophilin A1 interacts with p140Cap in dendritic spines.

(A) DIV21 hippocampal neurons expressing DsRed were immunostained with antibodies to endophilin A1 and PSD95. Shown are representative confocal images. Lower panels are insets of boxed areas in the upper panel. Scale bar, 5 μ m. **(B)** DIV21 hippocampal neurons expressing DsRed were immunostained with antibodies to endophilin A1 and p140Cap. Shown are representative confocal images. Right

panels are insets of boxed areas in the left panel. Lower panels are merged images of endophilin A1 and p140Cap in spines outlined in white. Scale bar, 5 μ m. **(C)**

Colocalization coefficient measuring the colocalization of endophilin A1 with PSD95 or p140Cap in dendritic spines. **(D)** Interacting partners of GST-EENA1 in mouse brain

lysates identified by mass spectrometry. GST- β III spectrin actin-binding domain (ABD) serves as negative control. **(E)** Immunoblotting analysis of mouse brain lysates,

protein extracts of HEK293 cells and that of HEK293 cells overexpressing

Flag-p140Cap using rabbit polyclonal antibodies raised against recombinant

His-p140Cap (aa 841-1059). α -tubulin serves as loading control. **(F)** Summary of

mapping results for the p140Cap-binding domain of endophilin A1. **(G)** Summary of

mapping results for the endophilin A1-binding site(s) of p140Cap.