

Electronic Supplementary Material

STIM protein-NMDA2 receptor interaction decreases NMDA-dependent calcium levels in cortical neurons

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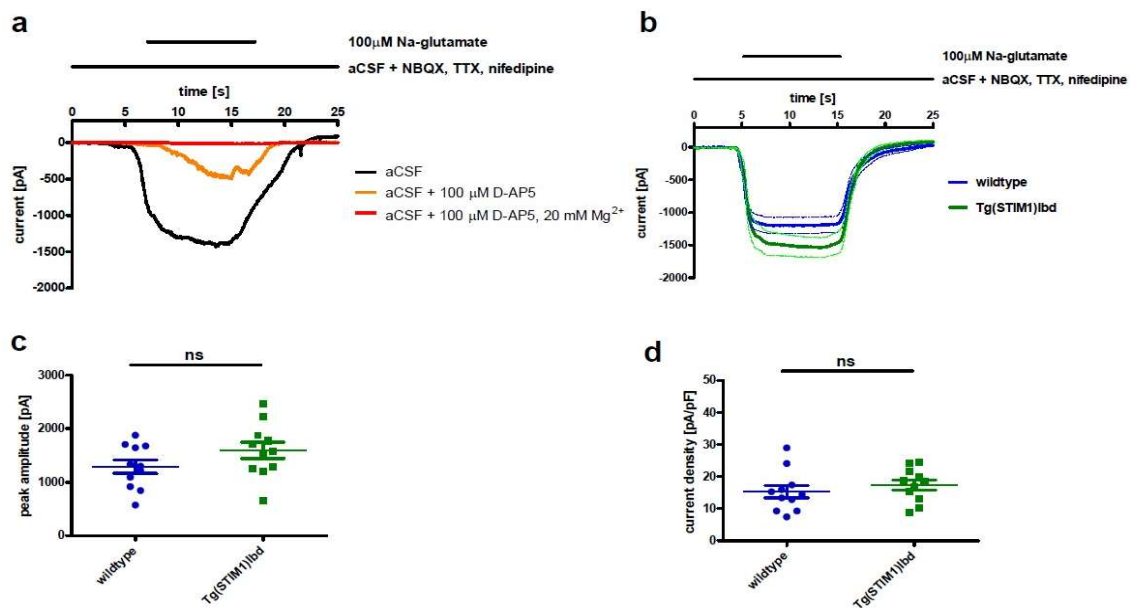


Figure S1. *In vitro* quantification of NMDA-induced currents with STIM overexpression. Electrophysiological recordings of NMDA-induced currents recorded from layer V pyramidal neurons from acute brain slices isolated from wild type and *Tg(Stim1)Ibd* mice. $n_{\text{wild-type}} = n_{\text{Tg(Stim1)Ibd}} = 11$. (a) Inhibiting evoked currents by D-AP5 and Mg^{2+} ions (traces from single experiment, all stimulations performed on the same cell). (b) Averaged traces of responses obtained from neurons of the two genetic variants; dotted lines represent standard deviation of the mean. (c) Comparison of peak amplitude of NMDAR-mediated currents; ns – not significant ($p < 0.05$). (d) Comparison of current density of NMDAR-mediated currents ($p < 0.05$).

Table S1. Interaction between STIMs and NR2 subunits of the NMDA receptor. Arrows indicate statistically significant change (increase or decrease), NC - no statistically significant change.

Interacting proteins	PLA TG/EGTA vs Ca^{2+}	Immunofluorescence TG/EGTA vs Ca^{2+}	Co-IP TG/EGTA vs Ca^{2+}
STIM1 with NR2A	NC	↑	↑ or NC
STIM1 with NR2B	↓	↓	↓
STIM2 with NR2A	↓	↓	↓
STIM2 with NR2B	↑	NC	NC