Suppl. Fig. 1 Brain weight gain in wild type (+/+) and DAPAT knockout (-/-) mice from P10 until the age of several months. Of each group at least 2 animals were analyzed. Statistics were done using the unpaired t-test (*** $p \leq 0{,}01$; * $p \leq 0{,}05$). Data are expressed as mean ± SEM.

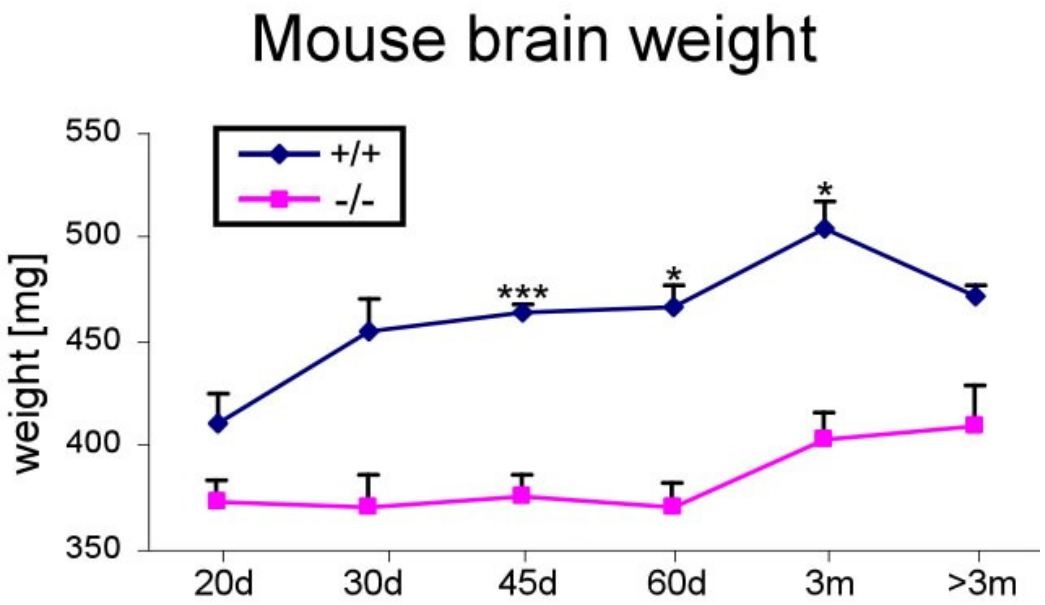
Suppl. Fig. 2 Dysmyelination and reduced axonal network complexity in the EL-deficient neocortex. Myelination in frontal cortical sections (20 µm, Bregma -0,5 to 0,5 mm) of wild type (+/+) and DAPAT knockout (-/-) mice were prepared at P20 (upper panel) and at the age of 8 months (lower panel) and stained by MBP immunofluorescence. A total number of 8 animals each were investigated. Scale bars correspond to 400 µm.

Suppl. Fig. 3 Distribution of Caspr and F3/contactin in the optic nerve of EL-deficient mice. Colocalization of two paranodal markers demonstrates that similar to Caspr, F3/contactin distribution is broadened in the mutant animal (P 42) indicating paranode dispersion. The scale bar corresponds to 2 µm.

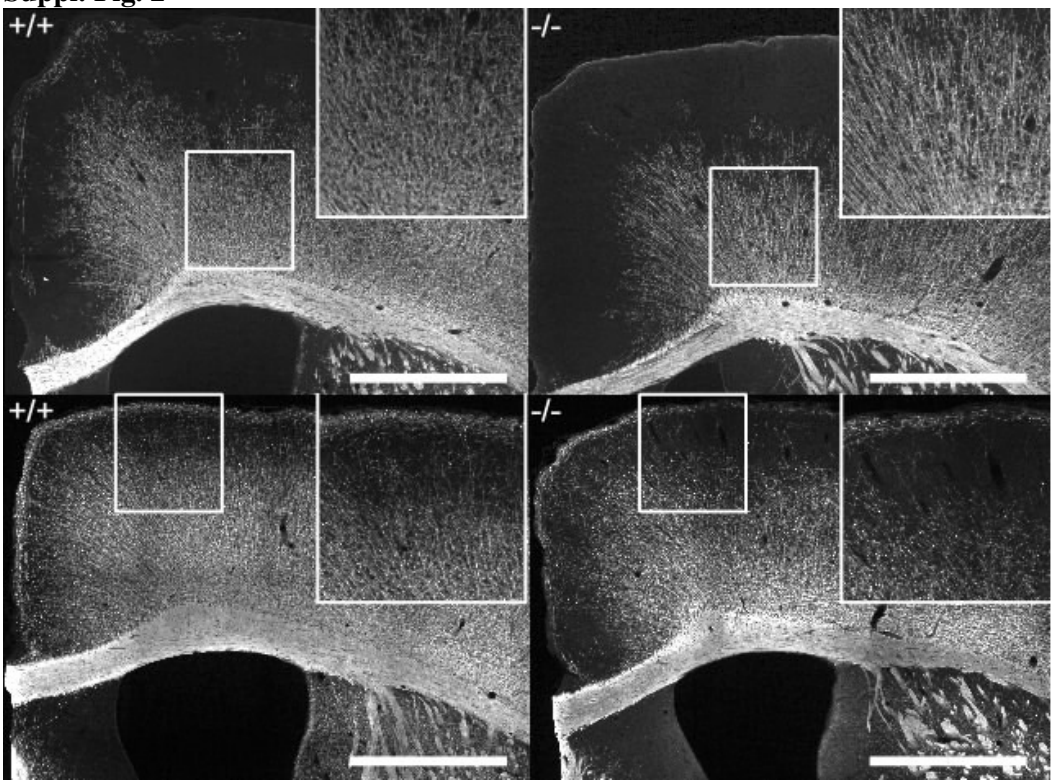
Suppl. Fig. 4 Initial formation of axonal swellings (asterisks) at the transition between axon initial segment and the first node of Ranvier (heminode, arrows) located in the upper third of the granular layer. (A) Double immunofluorescence of CB (red) and IP3R1 (green). (B) Staining of first heminode by CB and IP3R1 immunofluorescence and on a semithin section immunolabeled for CB and counterstained with methylene blue-azur II. P, PC somata. Scale bars correspond to 3 µm (A), 4 µm (B) and 10 µm (C).

Suppl. Fig. 5 Lamellar cisternal stacks of smooth ER-like in PC somata (A, B) demonstrating intercisternal IP3R1-rich protein complexes. Scale bars correspond to 250 nm (A) and 50 nm (B).

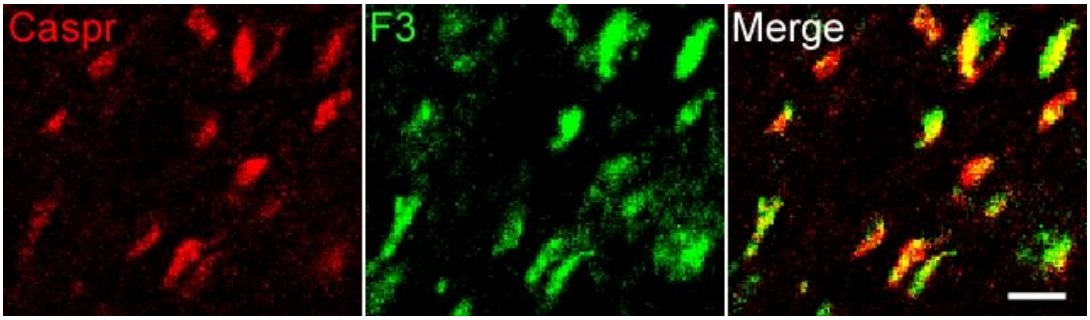
Suppl. Fig. 1



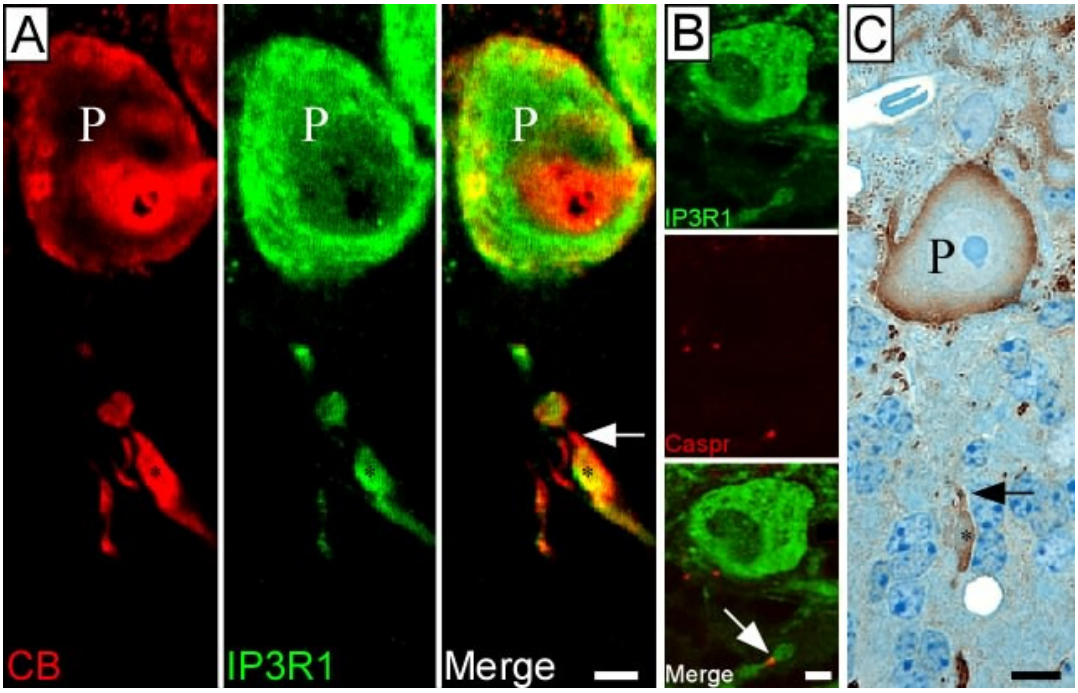
Suppl. Fig. 2



Suppl. Fig. 3



Suppl. Fig. 4



Suppl. Fig. 5