Fig. S1

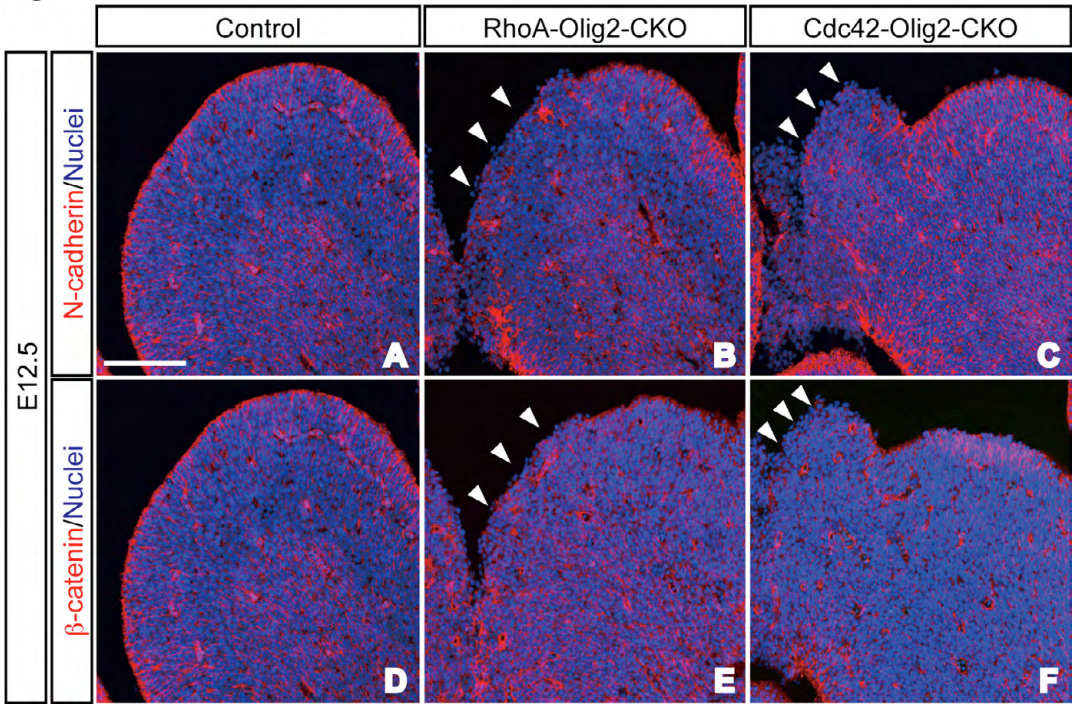

Fig. S1. Disruption of adherens junctions in *RhoA*- and *Cdc42*-deleted neural progenitor cells. (**A-F**) Apical localization of N-cadherin (A-C) and β-catenin (D-F) was lost in the dysplastic region of RhoA-Olig2-CKO and Cdc42-Olig2-CKO embryos at E12.5 (arrowheads). Scale bar: 100 μm.

Fig. S2

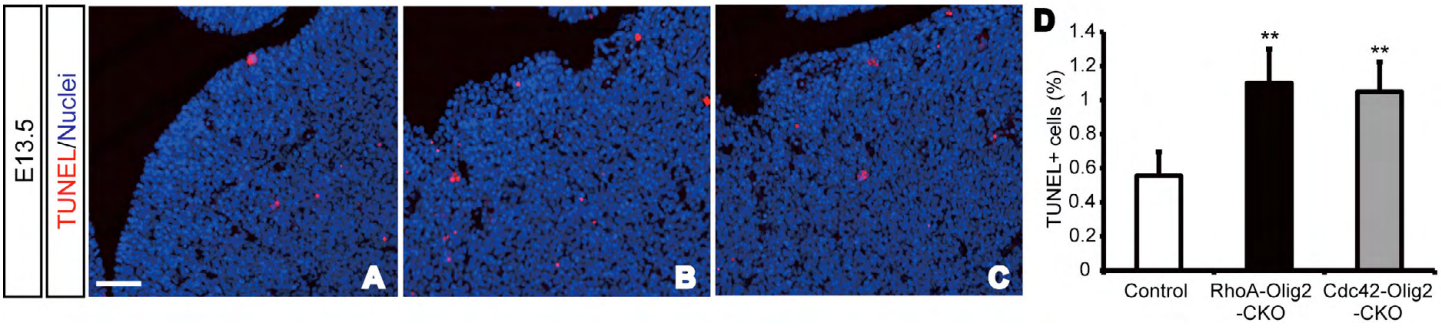

Fig. S2. Loss of RhoA and Cdc42 induced increased apoptosis in MGE cells. (**A-D**) TUNEL staining revealed increased apoptosis in RhoA-Olig2-CKO and Cdc42-Olig2-CKO embryos. The graph represents the mean + s.d. of eight control (four *RhoA*$^{flox/+}$; *Olig2-Cre* and four *Cdc42*$^{flox/+}$; *Olig2-Cre*), three RhoA-Olig2-CKO and four Cdc42-Olig2-CKO embryos. Statistical analyses were carried out between *RhoA*$^{flox/+}$; *Olig2-Cre* and RhoA-Olig2-CKO embryos, and between *Cdc42*$^{flox/+}$; *Olig2-Cre* and Cdc42-Olig2-CKO embryos. $^{**}P<0.01$, Student's *t*-test. Scale bar: 50 μm.

Fig. S3

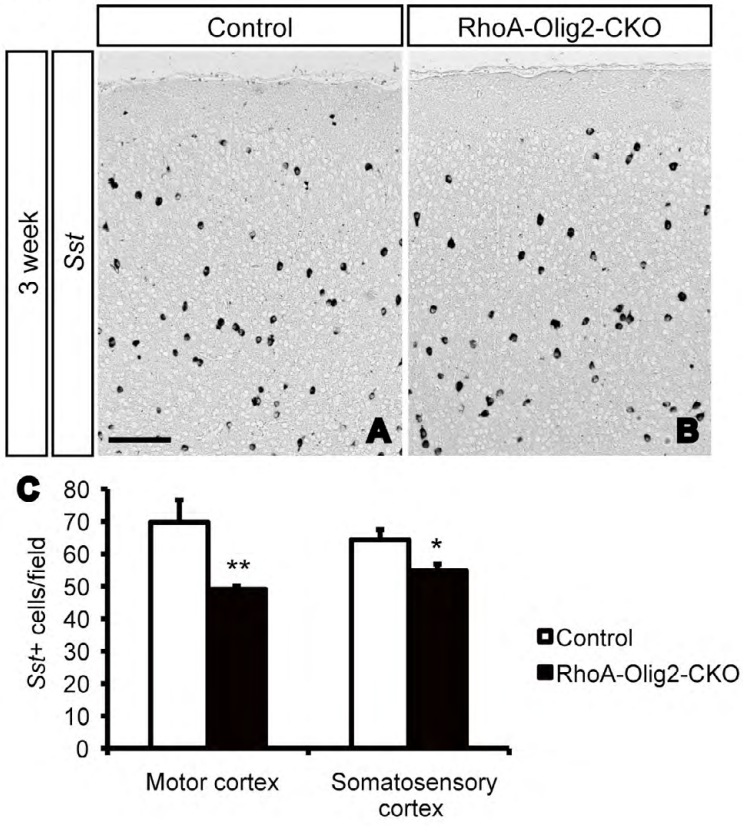

Fig. S3. The number of *Sst*⁺ cortical interneurons was decreased in RhoA-Olig2-CKO mice. (**A**,**B**) *In situ* hybridization for *Sst* of the motor cortex at 3 weeks of age. (**C**) The number of *Sst*⁺ cells was significantly decreased in the motor cortex as well as in the somatosensory cortex in RhoA-Olig2-CKO embryos compared with control embryos. *Sst*⁺ cells in a 10× optical view were counted. The graph depicts the mean + s.d. of three mice. **P*<0.05, ***P*<0.01, Student's *t*-test. Scale bar: 100 μm.

Fig. S4

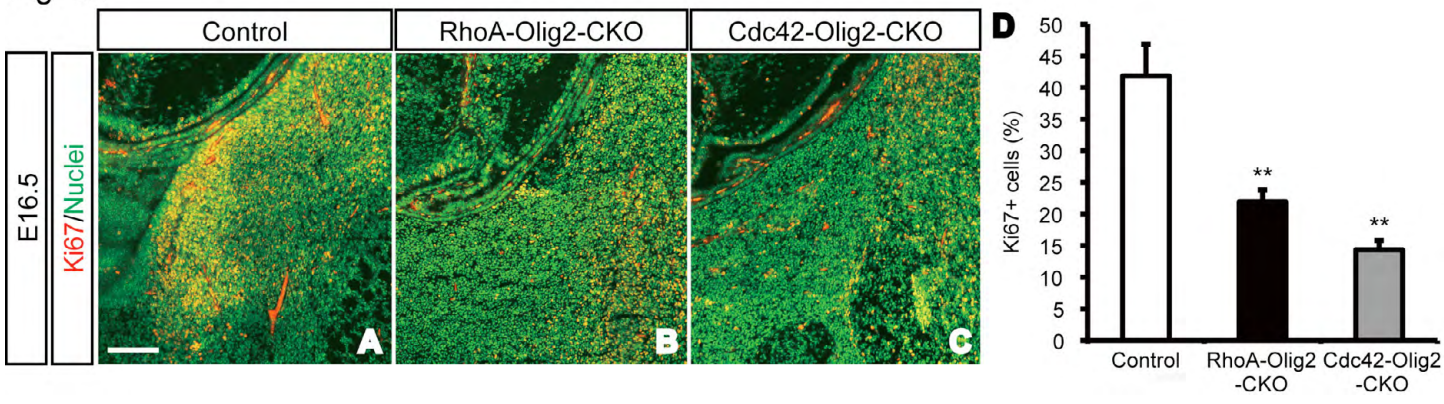

Fig. S4. Reduced proliferating cells in the MGE in RhoA-Olig2-CKO and Cdc42-Olig2-CKO. (**A-C**) The numbers of Ki67⁺ proliferating cells were significantly decreased in the MGE of RhoA-Olig2-CKO and Cdc42-Olig2-CKO embryos at E16.5. (**D**) The graph represents the mean + s.d. of seven control (four *RhoA*$^{flox/+}$*; Olig2-Cre* and three *Cdc42*$^{flox/+}$*; Olig2-Cre*), four RhoA-Olig2-CKO and four Cdc42-Olig2-CKO embryos. Statistical analyses were carried out between *RhoA*$^{flox/+}$*; Olig2-Cre* and RhoA-Olig2-CKO embryos, and *Cdc42*$^{flox/+}$*; Olig2-Cre* and Cdc42-Olig2-CKO embryos. ***P*<0.01, Student's *t*-test. Scale bar: 100 μm.

Fig. S5

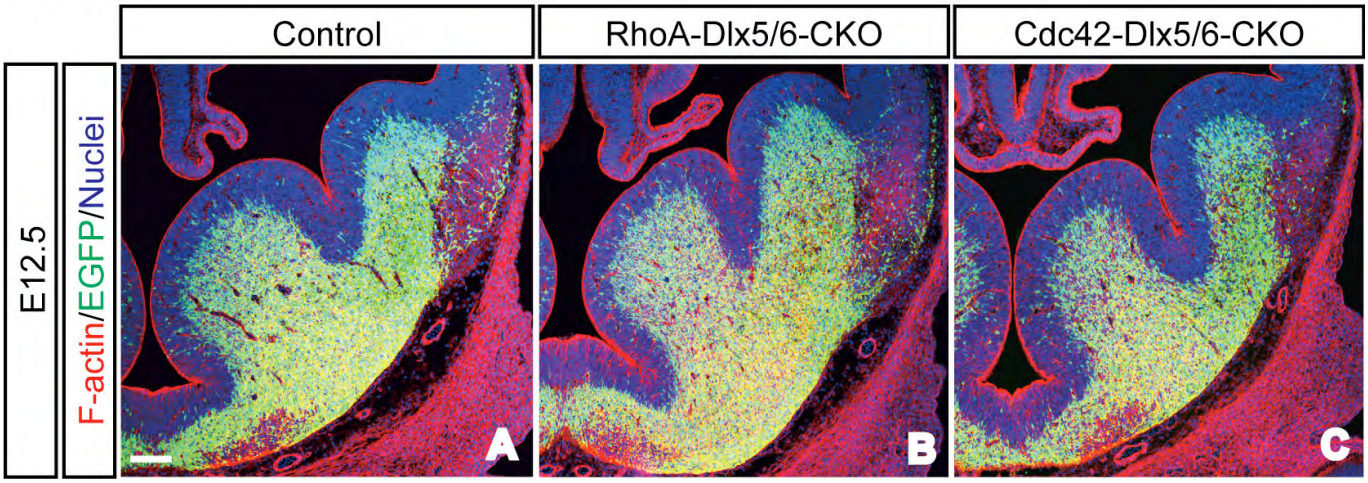

Fig. S5. Apical organization was not disrupted in RhoA-Dlx5/6-CKO and Cdc42-Dlx5/6-CKO embryos. (**A-C**) Apical localization of F-actin was present in the ganglionic eminences of RhoA-Dlx5/6-CKO and Cdc42-Dlx5/6-CKO embryos at E12.5. Scale bar: 100 μm.