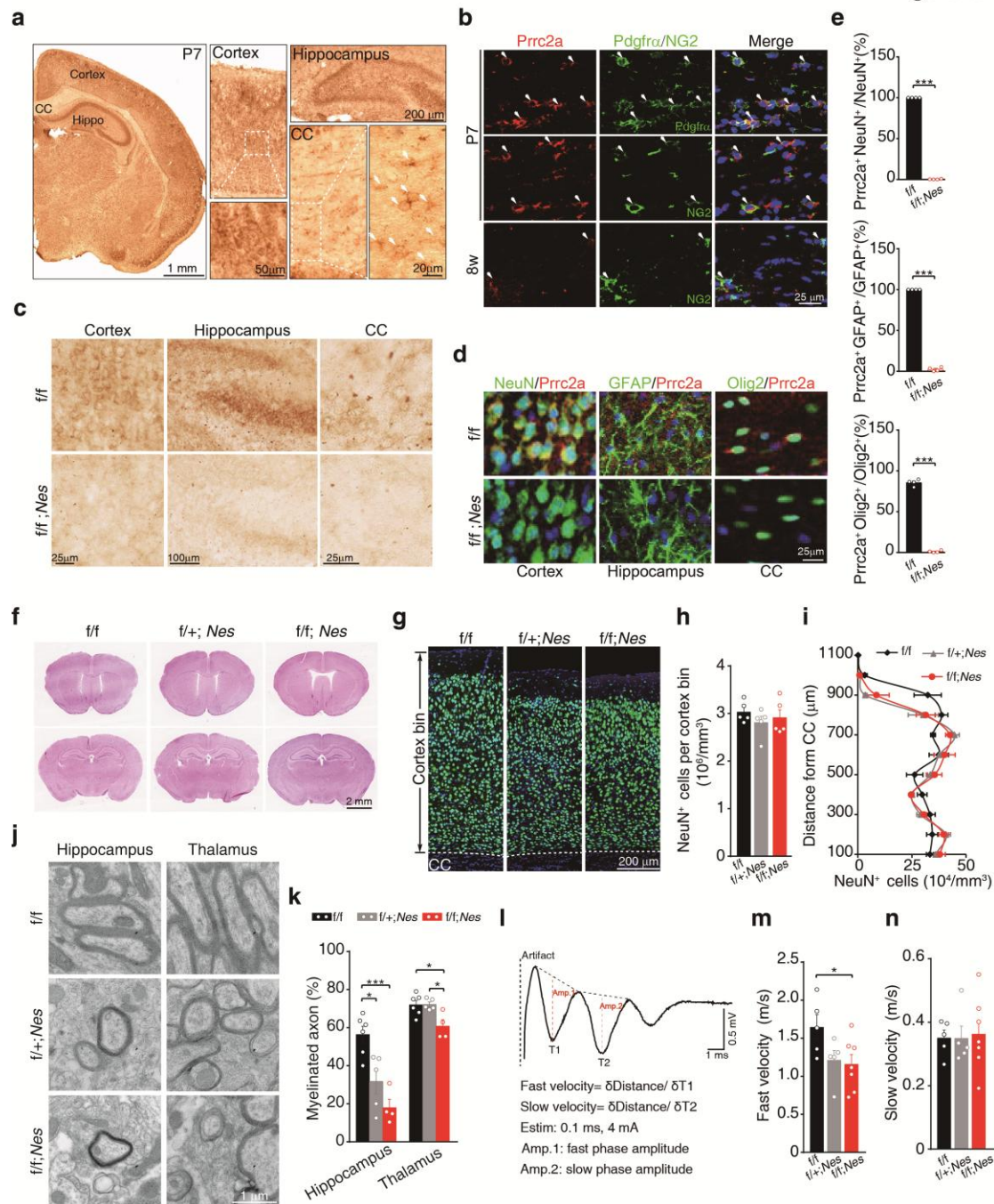


Figure S2



Supplementary Figure 2, related to Figure 2. **Prrc2a** deficiency led to hypomyelination.

(a) Immunohistochemical distribution of **Prrc2a** in a coronal section of P7 male C57BL/6J mouse brain. Cortex, cerebral cortex; Hippo, hippocampus; CC, corpus callosum.

(b) Confocal microscopy demonstrates that endogenous **Prrc2a** expressed in **Pdgfra** or **NG2** positive cells in corpus callosum from P7 or 8-week old male C57BL/6J mouse brain.

45 (c) Immunohistochemical staining of *Prrc2a* in a coronal section of brain from wild-type and
 46 *Prrc2a^{ff};Nestin-cre* mice at P7.

47 (d) *Prrc2a* co-immunostaining with NeuN, GFAP or Olig2 in the brain sections from
 48 wild-type and *Prrc2a^{ff};Nestin-cre* mice at P7.

49 (e) Quantification on the percentage of *Prrc2a* expression in NeuN, GFAP or Olig2 positive
 50 cells from wild-type and *Prrc2a^{ff};Nestin-cre* mice at P7 (two-tailed unpaired student's *t*-test,
 51 ****P*<0.001, n=4 each group).

52 (f) Haematoxylin and eosin staining of indicated genotype brain sections at P28.

53 (g) NeuN staining of the indicated genotype mice at P56.

54 (h) Quantification of NeuN⁺ cells in cortex bin (n = 5 each group).

55 (i) Quantification of the distance from NeuN⁺ to the corpus callosum surface. Values for the
 56 number of NeuN⁺ in each 100 μm bin represent mean ± SEM (n = 5 each group).

57 (j) Representative TEM of the myelin fibers in the hippocampus and thalamus showed
 58 reduced myelination in the indicated genotype mice at 4 weeks old.

59 (k) The percentage of myelinated axons in the hippocampus and thalamus from 4-week-old
 60 mice with indicated genotypes (one-way ANOVA followed Tukey test, **P*<0.05, ****P*<0.01,
 61 *f/f*, n=6; *f/+*; *Nes*, n=5; *f/f*; *Nes*, n=4).

62 (l) Typical corpus callosum compound action potentials (CAPs) evoked at 4 mA from
 63 wild-type mice at 8 weeks old. Fast velocity=ΔDistance/ΔT1; Slow velocity=ΔDistance/ΔT2;
 64 Amp.1 is the fast phase amplitude and Amp.2 is the slow phase amplitude.

65 (m) Fast velocity: callosal conduction velocity of the myelinated axons (one-way ANOVA
 66 followed Tukey test, **P*<0.05, *f/f* n=5, *f/+*; *Nes* n=5, *f/f*; *Nes* n=7).

- 67 (n) Slow velocity: callosal conduction velocity of the unmyelinated axons (f/f n=5, f/+;Nes
68 n=5, f/f;Nes n=7).