Tripathi et al. “Remarkable stability of myelinating oligodendrocytes in mice”

SUPPLEMENTAL INFORMATION inventory:

Figure S1. Characterization of Opalin–iCreERT2 transgenic mice. Related to Figures 1 and 2.

Figure S2. Myelinating OLs persist in older mice. Related to Figures 1 and 2.

Figure S1. Characterization of Opalin–iCreERT2 transgenic mice. Related to Figures 1 and 2. (A-C) Tamoxifen (55 mg/kg) was injected into Opalin–iCreERT2: Rosa–YFP mice on four consecutive days starting at P60, causing mature OLs (CC1+) to become YFP-labelled (A, B). No overlap was seen between YFP and PDGFRA (OPs; D–F), NEUN (neurons; G–I) or GFAP (astrocytes; J–L). All images are of corpus callosum except G–I, which are of cerebral cortex. Cell nuclei are labelled with Hoechst 33258 (blue). ~97.5% (346/355) of YFP+ cells in the corpus callosum were CC1+ OLs, while the fraction of CC1+ OLs that was also YFP+ (i.e. the Rosa–YFP recombination efficiency) was 7.8% ± 1.5% (mean ± s.e.m., n=4). With the Tau-mGFP reporter the recombination efficiency was 2.8% ± 1.3% (n=6) after tamoxifen injection at 55 mg/kg. With 120 mg/kg tamoxifen the recombination efficiency with Tau–mGFP was 12.9% ± 1.6% (n=6). White arrows indicate cell-type specific labelling, arrowheads indicate GFP-labelled cells and yellow arrows indicate double-labelled cells. Scale bars, 20 µm.
Figure S2. Myelinating OLs persist in older mice. Related to Figures 1 and 2. (A) Experimental protocol. Tamoxifen (120 mg/kg) was injected at P425 (14 months) on four consecutive days and mGFP$^+$ OLs were counted at P425+30 and P425+180. (B–E) Sections of the regions indicated were immunolabelled with monoclonal CC1 (red), anti-GFP (green) and counter-stained with Hoescht 33258 (blue). In all regions the OL labelling efficiency at P425 was less than at P60. CC, corpus callosum; MC, motor cortex; SC, spinal cord. Scale bar 10 μm. (F–H) No significant loss of OLs was detected up to P425+180 (20 months of age) in any of the CNS regions analyzed (Student's t-test, n=4 at each age). Data are mean ± s.e.m.