Supplementary Table 1 | Histological to *in vivo* conversion of layer widths derived from Lein et al., 2007 (Ref. 79)

Related to Figs. 7,8 and Extended Data Figs. 7,9,10

Cortical Layer	Z-depth through PPC (Allen Brain Atlas) - Top (μm)	Z-depth through PPC (Allen Brain Atlas) - Bottom (μm)	Layer Widths (μm)	Multiplication Factor (Layer Width / 871 μm)
1	0	130	130	0.149
2-3	130	378	248	0.285
4	378	492	114	0.131
5-6	492	871	379	0.435

Supplementary Table 2 | Antibody specifications

	Antigen	Host	Time of L.A.B. Treatment	Source	Antibody #	Dilution
Primary Antibodies	Anti-Enhanced Green Fluorescent Protein (EGFP)	Chicken	NA	Aves	GFP1020	1:1000
	Anti-Enhanced Green Fluorescent Protein (EGFP)	Goat	NA	SciGen	AB0066	1:2000
	Anti-Glial Fibrillary Acidic Protein (GFAP)	Mouse IgG1	NA	Sigma	G3893-GA5	1:1000
	Anti-Heat Shock Proteins 70/72 (HSP70/72)	Mouse IgG1	7 min.	Enzo	ADI-SPA-810-D	1:400
	Anti-Ionized Calcium-Binding Adapter Molecule 1 (Iba-1)	Rabbit	NA	Wako	019-19741	1:1000
	Anti-H2A Histone Family Member X (γ-H2AX)	Rabbit	NA	Cell Signaling	S139-20E3	1:500
	Anti-8-hydroxyguanosine (8-OHG)	Mouse IgG2b	NA	Fisher	MA110602-15A3	1:1500
	Anti-Platelet-Derived Growth Factor Receptor - Alpha (Pdgfr-α)	Goat	NA	R&D Biosystems	AF1062	1:2000
	Anti-aspartoacyclase (ASPA)	Rabbit	5 min.	Genetex	ABN1698	1:1000
	Anti-neuronal nuclear protein (NeuN)	Chicken	NA	Millipore	ABN91	1:500
	Anti pan-Neurofilament (SMI-312)	Mouse IgG1	NA	BioLegend	NC1239357	1:250
	Anti-vesicular glutamate transporter 2 (Vglut2)	Guinea Pig	NA	EMD Millipore	AB2251-I	1:1000

	Antigen	Host	Time of L.A.B. Treatment	Source	Antibody #	Dilution
Secondary Antibodies	anti-Rabbit 405	Donkey	see above for antibody pairings	Invitrogen	A48258	1:500
	anti-Chicken 405	Donkey		Jackson	703-475-155	1:300
	anti-Chicken 488	Donkey		Jackson	703-545-155	1:500
	anti-Goat 488	Donkey		Jackson	705-545-003	1:500
	anti-Goat 546	Donkey		Jackson	A11056	1:500
	anti-Rabbit Cy3	Donkey		Jackson	711-165-152	1:500
	anti-Mouse IgG2b 570	Goat		Jackson	115-297-187	1:500
	anti-Guinea Pig 568	Goat		Invitrogen	A11075	1:500
	anti-Mouse IgG1 647	Goat		Jackson	115-607-185	1:500

Supplementary Table 3 | Statistics results table

Statistics results are sorted by figure, and both main figures and supplementary figures are listed in the order they appear in the text.
Statistically significant comparisons are bolded

Table 3.1 | Statistics for Figure 1 and associated extended data (Extended Data Figs. 2,3)

Fig. 1	Measure	Values	N	Statistical test	Significance
Fig. 1c	Signal to background ratio with two-photon vs. three-photon imaging at different brain depths	501-600 µm: 4.602 ± 1.580 (two-photon) vs. 19.662 ± 2.775 (three-photon) 601-700 µm: 3.667± 0.353 (two-photon) vs. 17.876 ± 3.206 (three-photon)	n=4 two-photon mice, 50 - 74 oligodendrocytes analyzed per mouse, n=4 three-photon mice, 101 - 123 analyzed oligodendrocytes per mouse.	Shapiro-Wilk W Test on distributions of imaging modality and depth not significant. Two-Way ANOVA followed by pairwise comparisons with Bonferroni correction.	**F(7) = 5.78, Prob >F <0.0001 (imaging x depth)** **501-600 µm: t(6) = 4.716, p=.003;** **601-700 µm: t(3.072) = 4.406, p = 0.021** **Bonferroni corrected alpha = 0.025*. 0.0125****
Fig. 1d	Number of oligodendrocyte cell bodies > 2 SBR per imaging volume with two-photon vs. three-photon, single comparison at layer 5	Layer 5: 41.362 ± 10.650 vs. 78.753 ± 10.153.	n=4 two-photon mice, n=8 three-photon mice.	Shapiro-Wilk W Test for normality by imaging modality and depth not significant. Single comparison at layer 5 using F-Test followed by unpaired two-tailed student's t-Test for equal	**t(10) = 2.286, p=0.045**
Fig. 1f	Orientation of THG-positive fibers in the corpus callosum vs. alveus.	15.27 ± 4.942 (corpus callosum) vs. -0.403 ± 1.041 (alveus) degrees	n=41 cells from 3 mice pre-learning, and n=29 cells from 3 mice post-learning	Shapiro-Wilk W Test not significant. F-Test followed by unpaired two-tailed student's t-Test for unequal variance.	**t(5.573) = -3.244, p=0.026**

Ext. Data Fig. 2	Measure	Values	N	Statistical test	Significance
Fig. 2d	Percentage of MOBP+ cells that also express ASPA	95.6 ± 0.75% (cortex) vs. 86.5 ± 2.63% (white matter)	n=4 mice, 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by unpaired two-tailed student's t-Test for equal variance.	**t(6) = -3.32, p = 0.016**
Fig. 3f	Lateral intensity of oligodendrocyte cell bodies with and without Adaptive Optics	631.77 ± 68.15 vs. 983.34 ± 100.95 a.u.	n = 2 mice, 11 oligodenrocytes at >800 µm depth	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	**p = 0.0002**
Fig. 3g	Axial intensity of oligodendrocyte cell bodies with and without Adaptive Optics	12.96 ± 0.97 vs. 9.59 ± 1.03 µm	n = 2 mice, 11 oligodenrocytes at >800 µm depth	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	**p = 0.014**

Supplementary Table 3 | Statistics results table

Statistics results are sorted by figure, and both main figures and supplementary figures are listed in the order they appear in the text.

Statistically significant comparisons are bolded

Table 3.2 | Statistics for Figure 3 and associated extended data (Extended Data Fig. 6)

Fig. 3	Measure	Values	N	Statistical test	Significance
Fig. 3e	# of HSP70/72-positive oligodendrocytes per mm^2 (healthy long-term imaging)	20.952±12.67 (contralateral) vs. 27.73±11.72 (ipsilateral)	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	p = 0.551
Fig. 3f	# of HSP70/72-positive oligodendrocytes per mm^2 (laser-induced injury)	39.2±18.6 (contralateral) vs. 71.7±22.6 (ipsilateral)	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	**p = 0.041**
Fig. 3g	Ratio of the ipsilateral : contralateral normalized HSP70/72 fluorescence intensity	Mean intensity (imaged) / Mean intensity (contralateral). 0.91±0.08 (Healthy) vs. 5.26±2.46 (laser-injury)	n = 5 mice (healthy), n= 5 mice (laser-injury) 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|z| = 2.089, p = 0.037**
Fig. 3h	# of γ-H2A.X-positive oligodendrocytes per mm^2 (healthy long-term imaging)	21.94±7.59 (contralateral) vs. 36.45±12.39 (ipsilateral) γ-H2A.X-positive oligodendrocytes per mm2	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = 1.36, p = 0.244
Fig. 3i	# of γ-H2A.X-positive oligodendrocytes per mm^2 (laser-induced injury)	19.69±9.98 (contralateral) vs. 35.306±13.28 (ipsilateral) γ-H2A.X-positive oligodendrocytes per mm2	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = 1.41, p = 0.231
Fig. 3j	Ratio of the ipsilateral : contralateral normalized γ-H2A.X- fluorescence intensity	Mean intensity (imaged) / Mean intensity (contralateral). 0.94±0.04 (Healthy) vs. 2.39±0.68 (laser-injury)	n = 5 mice (healthy), n= 5 mice (laser-injury) 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	|z| = 1.462, p = 0.144
Fig. 3l	Mean rate of healthy oligodendrocyte gain per week (Two-photon vs. Three-photon)	Two-photon = 1.7±0.2 vs. Three-photon = 1.4±0.3% gained per week	n=5 mice, 477 oligodendrocytes (Two-photon); n=4 mice, 340 oligodendrocytes (Three-photon)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test	t(6) = 0.819, p = 0.440

Table 3.2 (cont'd) | Statistics for Extended Data Fig. 6

Ext. Data Fig. 6	Measure	Values	N	Statistical test	Significance
Fig. 6d	# of MOBP-EGFP-positive oligodendrocytes per mm^2 (healthy long-term imaging)	765.02±83.00 (contralateral) vs. 703.67±38.55 (ipsilateral)	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test significant. Wilcoxon signed rank test.	Prob > |S| = 1.00
Fig. 6e	# of MOBP-EGFP-positive oligodendrocytes per mm^2 (laser-induced injury)	610.60±119.3 (contralateral) vs. 488.03±75.64 (ipsilateral)	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = -1.16, p = 0.311
Fig. 6f	Ratio of the ipsilateral : contralateral normalized MOBP-EGFP fluorescence intensity	Mean intensity (imaged) / Mean intensity (contralateral). 0.92±0.09 (Healthy) vs. 1.14±0.06 (laser-injury)	n = 5 mice (healthy), n= 5 mice (laser-injury) 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. F-Test followed by unpaired two-tailed student's t-Test for equal variance.	t(4) = 2.04, p = 0.076
Fig. 6g	# of Iba-1-positive microglia per mm^2 (healthy long-term imaging)	312.19±22.16 (contralateral) vs. 325.3	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = 0.48, p = 0.658
Fig. 6h	# of Iba-1-positive microglia per mm^2 (laser-induced injury)	262.2±18.3 (contralateral) vs. 440.7±4	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	**t(4) = 3.99, p = 0.016**
Fig. 6i	Ratio of the ipsilateral : contralateral normalized Iba-1 fluorescence intensity	Mean intensity (imaged) / Mean intensity (contralateral). 0.98±0.03 (Healthy) vs. 1.11±0.04 (laser-injury)	n = 5 mice (healthy), n= 5 mice (laser-injury) 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. F-Test followed by unpaired two-tailed student's t-Test for equal variance.	**t(8) = 2.73, p = 0.026**
Fig. 6j	# of GFAP-positive astrocytes per mm^2 (healthy long-term imaging)	148.08±52.70 (contralateral) vs. 126.4	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = -0.73, p = 0.504
Fig. 6k	# of GFAP-positive astrocytes per mm^2 (laser-induced injury)	142.4±49.7 (contralateral) vs. 290.8±7	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test significant. Wilcoxon signed rank test.	**t(4) = 3.94, p = 0.017**
Fig. 6l	Ratio of the ipsilateral : contralateral normalized GFAP fluorescence intensity	Mean intensity (imaged) / Mean intensity (contralateral). 1.04±0.05 (contralateral) vs. 1.24±0.27 (ipsilateral)	n = 5 mice (healthy), n= 5 mice (laser-injury) 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|z| = 2.09, p = 0.037**
Fig. 6m	# of 8-OHG-positive neurons greater than 90% pixel threshold per mm^2 (healthy long-term imaging)	303.72±77.31 (contralateral) vs. 342.39±69.71 (ipsilateral)	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = 0.62, p = 0.572
Fig. 6n	# of 8-OHG-positive neurons greater than 90% pixel threshold per mm^2 (laser-induced injury)	137.14±61.38 (contralateral) vs. 187.6	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test significant. Wilcoxon signed rank test.	t(4) = 0.59, p = 0.589
Fig. 6o	Ratio of the ipsilateral : contralateral normalized 8-OHG fluorescence intensity	Mean intensity (imaged) / Mean intensity (contralateral). 0.93±0.04 (contralateral) vs. 1.63±0.30 (ipsilateral)	n = 5 mice (healthy), n= 5 mice (laser-injury) 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. F-Test followed by unpaired two-tailed student's t-Test for equal variance.	t(8) = 1.57, p = 0.154
Fig. 6p	Percentage of vascular coverage (segmented Lectin-649 positive area, healthy long-term imaging)	14.22±1.43 (contralateral) vs. 13.30±1.30% (ipsilateral) of image area	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = -1.91, p = 0.13
Fig. 6q	Percentage of vascular coverage (segmented Lectin-649 positive area, laser-induced injury)	16.8±2.3 (contralateral) vs. 22.8±3.4% (ipsilateral) of image area	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	**t(4) = 3.65, p = 0.022**
Fig. 6r	# of CD13-positive pericytes per mm^2 (healthy long-term imaging)	320.94±53.36 (contralateral) vs. 272.2	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = -2.02, p = 0.114
Fig. 6s	# of CD13-positive pericytes per mm^2 (laser-induced injury)	218.60±23.67 (contralateral) vs. 300.7	n = 5 mice, 2 sections / 4 hemispheres per mouse	Shapiro-Wilk W Test not significant. Paired one-sample t-Test, two-tailed.	t(4) = 2.24, p = 0.088

Supplementary Table 3 | Statistics results table

Statistics results are sorted by figure, and both main figures and supplementary figures are listed in the order they appear in the text.

Statistically significant comparisons are bolded

Table 3.3 | Statistics for Figure 4 and associated extended data (Extended Data Fig. 7)

Fig. 4	Measure	Values	N	Statistical test	Significance
Fig. 4e	Total # new oligodendrocytes / 350 x 350 x 60 µm volume at 66 day time point (Gray Matter vs. White Matter)	33.8±5.5 vs. 10.9±1.3 OLs / imaging volume	n = 5 mice	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(4.45) = 4.03, p = 0.013**
	Rate of new oligodendrocytes gained / Week / 350 x 350 x 60 µm volume (Gray Matter vs. White Matter)	3.9±0.6 vs. 1.2±0.1 OLs / volume / week	n = 6 mice	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(5.44) = 4.74, p = 0.005**
Fig. 4g	Total % Oligodendrocyte Gain at 66 day time point (Gray Matter vs. White Matter)	19.1±2.1% vs. 12.1±1.3%	n = 5 mice	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	**t(8) = -2.83, p = 0.022**
Fig. 4h	% Rate of Oligodendrocyte Gain (Gray Matter vs. White Matter) at 5 week time point calculated from Mechanistic Growth Curves	2.3±0.3 vs. 1.3±0.2% per week	n = 6 mice	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	**t(10) = -2.756, p = 0.020**
Fig. 4i	Time at 50% OL gain (days) calculated from Mechanistic Growth Curves (Gray Matter vs. White Matter)	26.8±2.2 vs. 24.3±4.4 days post-P70	n = 6 mice	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(10) = -0.52, p = 0.615
Fig. 4j	Two-week binned rates of oligodendrocyte gain (not modeled, % per week, GM vs. WM)	1.0±0.4 vs. 2.5±0.5, WM, Weeks 5-6 vs. Weeks 1-2; 0.8±0.2 vs. 2.5±0.5, WM, Weeks 9-10 vs. Weeks 1-2	n = 6 mice	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Dunnett's test with control.	**p = 0.037 for Weeks 5-6 vs. Weeks 1-2; p = 0.022 for Weeks 9-10 vs. Weeks 1-2**
Fig. 4n	Change in percentage of MOL1-positive oligodendrocytes with aging in GM (%P140 - %P60)	-4.94±3.45% vs. normalized % at P60	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(12) = -0.81, p = 0.434
	Change in percentage of MOL2/3-positive oligodendrocytes with aging in GM (%P140 - %P60)	0.07±0.51% vs. normalized % at P60	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(12) = 0.10, p = 0.919
	Change in percentage of MOL5/6-positive oligodendrocytes with aging in GM (%P140 - %P60)	-3.99±3.42% vs. normalized % at P60	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(12) = 0.80, p = 0.440
	Change in percentage of MOL1-positive oligodendrocytes with aging in WM (%P140 - %P60)	0.19±0.17% vs. normalized % at P60	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(12) = -0.67, p = 0.514
	Change in percentage of MOL2/3-positive oligodendrocytes with aging in WM (%P140 - %P60)	0.80±0.82% vs. normalized % at P60	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	|z| = 1.36, p = 0.175
	Change in percentage of MOL5/6-positive oligodendrocytes with aging in WM (%P140 - %P60)	2.30±4.69% vs. normalized % at P60	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(12) = 0.25, p = 0.805
Fig. 4o	Percentage of MOBP-EGFP oligodendrocytes that are MOL1-positive at P140	17.2 ± 3.4 (GM) vs. 0.6 ± 0.2% (WM)	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(7.033) = -4.804, p = 0.002**
	Percentage of MOBP-EGFP oligodendrocytes that are MOL2/3-positive at P140	1.8 ± 0.5 (GM) vs. 3.8 ± 0.8% (WM)	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|z| = 2.363, p = 0.018**
	Percentage of MOBP-EGFP oligodendrocytes that are MOL5/6-positive at P140	27.4 ± 3.4 (GM) vs. 46.4 ± 4.7% (WM)	n = 6 mice (P60), n = 8 mice (P140), 2 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	**t(14) = 3.283, p = 0.005**

Ext. Data Fig. 7	Measure	Values	N	Statistical test	Significance
Fig. 7c	Density of OPCs in posterior parietal cortex (GM) vs. white matter (WM)	181.2 ± 7.7 (GM) vs. 248.6 ± 23.8 (WM) mm^2	n = 4 mice, 3 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	**t(6) = 2.69, p = 0.036**
Fig. 7d	Density of EdU-positive OPCs in posterior parietal cortex (GM) vs. white matter (WM)	14.6 ± 2.5 (GM) vs. 51.6 ± 6.	n = 4 mice, 3 sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(6) = 5.29, p = 0.002**
Fig. 7f	% MOBP-EGFP oligodendrocytes positive for Egr2 (MOL1) in the spinal cord GM vs. WM	18.61 ± 3.9 (GM) vs. 0.05 ± 0	n = 3 mice, 2 spinal cord sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(2.00) = -4.68, p = 0.043**
	% MOBP-EGFP oligodendrocytes positive for Klk6 (MOL2/3) in the spinal cord GM vs. WM	1.28 ± 0.26 (GM) vs. 37.23 ±	n = 3 mice, 2 spinal cord sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(2.02) = 8.86, p = 0.012**
	% MOBP-EGFP oligodendrocytes positive for Ptgds (MOL5/6) in the spinal cord GM vs. WM	32.27 ± 5.31 (GM) vs. 0.90 ±	n = 3 mice, 2 spinal cord sections per mouse	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(2.03) = -5.88, p = 0.027**

Supplementary Table 3 | Statistics results table

Statistics results are sorted by figure, and both main figures and supplementary figures are listed in the order they appear in the text.

Statistically significant comparisons are bolded

Table 3.4 | Statistics for Figure 5

Fig. 5	Measure	Values	N	Statistical test	Significance
Fig. 5c	% depth of corpus callosum analyzed longitudinally (Healthy vs. Cuprizone)	84±8.0% (healthy) vs. 86.8±3.5%	n=6 mice (Healthy), n = 6 mi	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	|Z| = 0.48, p = 0.629
Fig. 5h	Total # lost oligodendrocytes / 350 x 350 x 60 µm volume at 66 day time point (Gray Matter vs. White Matter)	36.8±6.0 vs. 157.4±37.8 OLs / imaging volume	n = 6 mice (Cuprizone)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(5.25) = 3.15, p = 0.024**
Fig. 5j	Total % lost oligodendrocytes (Gray Matter vs. White Matter) at 66 day time point.	75.3±6.3% (GM) vs. 75.6±7.4% (WM)	n = 6 mice (Cuprizone)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(10) = 0.04, p = 0.970
Fig. 5k	% Rate of Oligodendrocyte Loss during demyelination (Gray Matter vs. White Matter) calculated from Gompertz 3-parameter growth curves	9.0±0.7% vs. 9.2±1.0% lost per week calculated from Gompertz 3-parameter modeling (Gray Matter vs. White Matter)	n = 6 mice (Cuprizone)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(10) = 0.16, p = 0.876
Fig. 5l	Inflection point of loss (days from end of cuprizone) calculated from Gompertz 3-parameter modeling (Gray Matter vs. White	0.4±1.4 (GM) vs. 2.5±2.0 (WM) days post cuprizone	n = 6 mice (Cuprizone)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	|Z| = 1.04, p = 0.298
Fig. 5m	Rates of oligodendrocyte loss binned by 1-3 weeks relative to cuprizone administration (not modeled, % per week, GM vs. WM)	9.6±1.8 vs. 2.49±0.93 % per week, GM, Weeks -2 to 0 vs. Week -3; 18.9±1.9 vs. 2.49±0.93% per week, GM, Weeks 0 to 2 vs. Week -3; 22.6±3.1 vs. 2.74±1.8% per week, WM, Weeks 1 to 2 vs. Week -3	n = 6 mice (Cuprizone)	Shapiro-Wilk W Test significant. Kruskal-Wallis followed by Steel Method for nonparametric multiple comparisons with control.	**p = 0.018 for Weeks -2-0 vs. Weeks -3, GM; p = 0.018 for Weeks 1 to 2 vs. Week -3, GM; p = 0.018 for Weeks 1 to 2 vs. Week -3, WM**
Fig. 5q	Change in percentage of MOL1-positive oligodendrocytes with cuprizone demyelination in GM (%Cup. + 4d. - %P140)	-15.44±0.65% vs. normalized % at P140	n = 8 mice (P140), n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.71, p = 0.007**
	Change in percentage of MOL2/3-positive oligodendrocytes with cuprizone demyelination in GM (%Cup. + 4d. - %P140)	-1.76±0.05% vs. normalized % at P140	n = 8 mice (P140), n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.90, p = 0.004**
	Change in percentage of MOL5/6-positive oligodendrocytes with cuprizone demyelination in GM (%Cup. + 4d. - %P140)	-24.24±1.11% vs. normalized % at P140	n = 8 mice (P140), n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(8.39) = -6.75, p =0.0001**
	Change in percentage of MOL1-positive oligodendrocytes with cuprizone demyelination in WM (%Cup. + 4d. - %P140)	-0.57±0.06% vs. normalized % at P140	n = 8 mice (P140), n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.07, p = 0.038**
	Change in percentage of MOL2/3-positive oligodendrocytes with cuprizone demyelination in WM (%Cup. + 4d. - %P140)	-2.58±0.52% vs. normalized % at P140	n = 8 mice (P140), n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.86, p = 0.004**
	Change in percentage of MOL5/6-positive oligodendrocytes with cuprizone demyelination in WM (%Cup. + 4d. - %P140)	-41.56±1.58% vs. normalized % at P140	n = 8 mice (P140), n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(8.50) = -8.40, p <0.0001**
Fig. 5r	Percentage of MOBP-EGFP oligodendrocytes that are MOL1-positive 4 days post-cuprizone removal	1.81 ± 0.65 (GM) vs. 0.09% ± 0.06% (WM)	n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.54, p = 0.011**
	Percentage of MOBP-EGFP oligodendrocytes that are MOL2/3-positive 4 days post-cuprizone removal	0.05 ± 0.04 (GM) vs. 1.2 ± 0.23% (WM)	n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.59, p = 0.0097**
	Percentage of MOBP-EGFP oligodendrocytes that are MOL5/6-positive 4 days post-cuprizone removal	3.13 ± 1.11 (GM) vs. 4.9 ± 1.6% (WM)	n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(8) = 0.89, p = 0.398

Supplementary Table 3 | Statistics results table

Statistics results are sorted by figure, and both main figures and supplementary figures are listed in the order they appear in the text.

Statistically significant comparisons are bolded

Table 3.5 | Statistics for Figure 6

Fig. 6	Measure	Values	N	Statistical test	Significance
Fig. 6e	Total # new oligodendrocytes / 350 x 350 x 60 µm volume after Cuprizone at 66 day time point (Gray Matter vs. White Matter)	13.3±2.0 (GM) vs. 123±47.3 (WM) OLs/imaging volume	n = 6 mice (cuprizone)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.80, p = 0.005**
Fig. 6g	Total % Replacement after Cuprizone (% Gain normalized to % Lost) at 66 day time point (Gray Matter vs. White Matter)	37.6±3.6% (GM) vs. 68.0±11.3% (WM)	n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(5.97) = 2.57, p = 0.043**
Fig. 6h	% Replacement Rate during remyelination (Gray Matter vs. White Matter) calculated from Gompertz 3-parameter growth curves	5.6±0.6% (GM) vs. 11.1±1.9% (WM)	n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(5.72) = 2.59 p = 0.043**
Fig. 6i	Inflection point of Cumulative % Replacement (days from end of cuprizone) calculated from Gompertz 3-parameter modeling (Gray Matter vs. White Matter)	15.352±0.77 (GM) vs. 15.358±1.56 Days post-cuprizone (WM)	n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(10) = 0.0037, p = 0.997
Fig. 6j	Rates of oligodendrocyte gain binned by 1-3 weeks relative to cuprizone administration (not modeled, % per week, GM vs. WM)	8.2±1.1 vs. 3.0±0.5% per week, GM, Weeks 3-4 vs. Week 7; 18.1±5.1 vs. 4.5±1.3% per week, WM, Weeks 3-4 vs. Week 7	n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Dunnett's method for comparison with control	**p = 0.002 for Weeks 3-4 vs. Week 7 in the GM; p = 0.0052 for Weeks 3-4 vs. Week 7 in the WM**
	Peak oligodendrocyte gain rate (3-4 weeks post-cuprizone)	8.2±1.1% (GM) vs. 18.1±5.1 (WM)		Two-way ANOVA followed by piecewise Student's t comparison with Bonferroni correction for multiple comparisons	**p = 0.0009; Bonferroni-corrected alpha = 0.0125**
Fig. 6n	Change in percentage of MOL1-positive oligodendrocytes with cuprizone demyelination in GM (%Cup. + 7w. - %P140)	-1.50±3.36% vs. normalized % at P140	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(13) = -0.31, p = 0.763
	Change in percentage of MOL2/3-positive oligodendrocytes with cuprizone demyelination in GM (%Cup. + 7w. - %P140)	-0.58±0.44% vs. normalized % at P140	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(13) = -0.86, p = 0.407
	Change in percentage of MOL5/6-positive oligodendrocytes with cuprizone demyelination in GM (%Cup. + 7w. - %P140)	-14.9±2.0% vs. normalized % at P140	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(13) = -3.712, p = 0.003**
	Change in percentage of MOL1-positive oligodendrocytes with cuprizone demyelination in WM (%Cup. + 7w. - %P140)	0.80±0.33% vs. normalized % at P140	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	|Z| = 1.85, p = 0.064
	Change in percentage of MOL2/3-positive oligodendrocytes with cuprizone demyelination in WM (%Cup. + 7w. - %P140)	0.31±1.22% vs. normalized % at P140	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	t(13) = 0.22, p = 0.833
	Change in percentage of MOL5/6-positive oligodendrocytes with cuprizone demyelination in WM (%Cup. + 7w. - %P140)	-22.6±4.2% vs. normalized % at P140	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test significant. Wilcoxon rank sum test.	**|Z| = 2.720, p = 0.007**
Fig. 6o	Percentage of MOBP-EGFP oligodendrocytes that are MOL1-positive 7 weeks post-cuprizone removal	15.8±3.3 (GM) vs. 1.5±0.3% (WM)	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(6.118) = -4.234, p = 0.005**
	Percentage of MOBP-EGFP oligodendrocytes that are MOL2/3-positive 7 weeks post-cuprizone removal	1.2±0.4 (GM) vs. 4.1±1.2% (WM)	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for unequal variance	**t(7.560) = 2.187, p = 0.063**
	Percentage of MOBP-EGFP oligodendrocytes that are MOL5/6-positive 7 weeks post-cuprizone removal	12.6±2.0 (GM) vs. 24.0±4.2% (WM)	n = 8 mice (P140), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. F-Test followed by one-way, two-tailed unpaired Student's t-Test for equal variance	**t(12) = 2.432, p = 0.032**

Supplementary Table 3 | Statistics results table

Statistics results are sorted by figure, and both main figures and supplementary figures are listed in the order they appear in the text.

Statistically significant comparisons are bolded

Table 3.6: Statistics for Fig. 7

Fig. 7	Measure	Values	N	Statistical test	Significance
Fig. 7d	% new oligodendrocyte gain in the healthy brain per week by layer	2.6±0.2 (L4) vs. 1.4±0.2% (CC)	n = 6 healthy mice	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**p = 0.012**
Fig. 7e	Percentage of MOBP-EGFP oligodendrocytes that are MOL1-positive at P140 by layer	23.44±3.54% (L1-3) vs. 18.27±4.50% (L4) vs. 13.84±3.88% (L5-6) vs. 0.66±0.16% (CC)	n = 8 mice (P140)	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**p = 0.0004, L1-3 vs. CC; p = 0.006, L4 vs. CC**
Fig. 7f	Percentage of MOBP-EGFP oligodendrocytes that are MOL2/3-positive at P140 by layer	0% (L1-3) vs. 0% (L4) vs. 2.98±0.78% (L5-6) vs. 3.75±0.0.82% (CC)	n = 8 mice (P140)	Shapiro-Wilk W Test significant. Kruskal-Wallis test followed by Dunn's test for multiple comparisons	**p = 0.0034 (L4 vs. L5-6); p = 0.0034 (L1-3 vs. L5-6); p = 0.0009 (L4 vs. CC); p = 0.0009 (L5-6 vs. CC)**
Fig. 7g	Percentage of MOBP-EGFP oligodendrocytes that are MOL5/6-positive at P140 by layer	21.674±4.12% (L1-3) vs. 26.38±3.1% (L4) vs. 31.26±3.09% (L5-6) vs. 46.42±4.69% (CC)	n = 8 mice (P140)	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**p = 0.042 (L5-6 vs. CC); p = 0.005 (L4 vs. CC); p = 0.0005 (L1-3 vs. CC)**
Fig. 7i	% cuprizone-induced oligodendrocyte loss per week by layer	1.12±0.26 (L1-3) vs. 1.52±0.32(L4) vs. 2.106±0.12% (L5-6) vs. 1.88±0.23 (CC)	n = 6 cuprizone mice	Shapiro-Wilk W Test not significant. One-way ANOVA.	Prob > F = 0.0504
Fig. 7j	Percentage of MOBP-EGFP oligodendrocytes that are MOL1-positive at 4 days post-cuprizone by layer	7.56±2.88% (L1-3) vs. 1.23±0.67% (L4) vs. 0.31±0.17% (L5-6) vs. 0.09±0.06% (CC)	n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Kruskal-Wallis test followed by Dunn's test for multiple comparisons	**p = 0.016, L1-3 vs. CC**
Fig. 7k	Percentage of MOBP-EGFP oligodendrocytes that are MOL2/3-positive at 4 days post-cuprizone by layer	0% (L1-3) vs. 0% (L4) vs. 0.09±0.09% (L5-6) vs. 01.18±0.23% (CC)	n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test significant. Kruskal-Wallis test followed by Dunn's test for multiple comparisons	**p = 0.022 L5-6 vs. CC; p = 0.004 L4 vs. CC; p = 0.004 L1 3 vs. CC**
Fig. 7l	Percentage of MOBP-EGFP oligodendrocytes that are MOL5/6-positive at 4 days post-cuprizone by layer	6.65±2.28% (L1-3) vs. 4.41±01.33% (L4) vs. 1.90±0.82% (L5-6) vs. 4.85±1.59% (CC)	n = 5 mice (Cuprizone + 4 days)	Shapiro-Wilk W Test not significant. One-way ANOVA.	Prob > F = 0.250
Fig. 7n	Oligodendrocyte replacement rate during remyelination (% of lost cells replaced per week) by layer	6.34±0.97% (L1-3) vs. 7.88±1.60% (L4) vs. 5.98±0.59% (L5-6) vs. 12.01±2.26% (CC)	n = 6 cuprizone mice	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**Prob > F = 0.034, p = 0.042 (L5-6 vs. CC)**
Fig. 7o	Percentage of MOBP-EGFP oligodendrocytes that are MOL1-positive at 7 weeks post-cuprizone by layer	16.34±4.63% (L1-3) vs. 20.60±5.47% (L4) vs. 13.66±2.91% (L5-6) vs. 1.46±0.33% (CC)	n = 7 mice (Cuprizone + 7 weeks)	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**p = 0.012 (L4 vs. CC)**
Fig. 7p	Percentage of MOBP-EGFP oligodendrocytes that are MOL2/3-positive at 7 weeks post-cuprizone by layer	0% (L1-3) vs. 0% (L4) vs. 2.33±0.97% (L5-6) vs. 4.06±1.22% (CC)	n = 7 mice (Cuprizone + 7 weeks)	Shapiro-Wilk W Test significant. Kruskal-Wallis test followed by Dunn's test for multiple comparisons	**p = 0.025 (L1-3 vs. L5-6); p = 0.025 (L4 vs. L5-6); p = 0.003 (L1-3 vs. CC); p = 0.003 (L4 vs. CC)**
Fig. 7q	Percentage of MOBP-EGFP oligodendrocytes that are MOL5/6-positive at 7 weeks post-cuprizone by layer	13.87±1.86% (L1-3) vs. 19.67±2.57% (L4) vs. 10.58±2.17% (L5-6) vs. 23.98±4.24% (CC)	n = 7 mice (Cuprizone + 7 weeks)	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**p = 0.015 (L5-6 vs. CC)**

Supplementary Table 3 | Statistics results table

Statistics results are sorted by figure, and both main figures and supplementary figures are listed in the order they appear in the text.

Statistically significant comparisons are bolded

Table 3.7: Statistics for Fig. 8 and associated extended data (Extended Data Fig. 10)

Fig. 8	Measure	Values	N	Statistical test	Significance
Fig. 8b	Scaled Total % Population Gain (Cuprizone vs. Healthy)	0.33±0.08 (cuprizone) vs. 0.57±0.14 (healthy)	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. Two-way ANOVA followed by piecewise Student's t comparison with Bonferroni correction for multiple comparisons	**p = 0.006, Bonferroni-corrected alpha = 0.0125**
Fig. 8c	Scaled % Gain Rate (Cuprizone vs. Healthy)	0.30±0.03 (cuprizone) vs. 0.57±0.06 (healthy)	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. Two-way ANOVA followed by piecewise Student's t comparison with Bonferroni correction for multiple comparisons	**p = 0.0025, Bonferroni-corrected alpha = 0.0125**
Fig. 8d	Scaled Inflection point of % Cumulative Gain or Replacement (days from end of cuprizone) calculated from Gompertz 3-parameter modeling (Cuprizone vs. Healthy)	Scaled inflection points across treatment and layers = 0.67±0.02	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. Two-way ANOVA no significant interaction.	Prob > F = 0.284
Fig. 8e	# of MOL subtypes present at each layer across healthy, Cup. + 4d., and Cup. + 7 weeks groups	L1-3: 2.0±0.0 classes (Healthy P140); 0.8±0.49 (Cup. + 4d.); 1.71±0.18 (Cup. + 7wk.) L4: 1.88±0.13 classes (Healthy P140); 0.4-±0.24 (Cup. + 4d.); 1.71±0.18 (Cup. L5-6: 2.0±0.0 classes (Healthy P140); 1.4±0.25 (Cup. + 4d.); 1.71±0.29 (Cup. CC: 2.0±0.0 classes (Healthy P140); 1.4±0.25 (Cup. + 4d.); 1.71±0.29 (Cup. + 7wk.)	n = 8 mice (P140), n = 5 mice (Cup. + 4d.), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test significant. Kruskal-Wallis test followed by Dunn's test for multiple comparisons	**L1-3: Prob > ChiSq = 0.036; p = 0.021 (Healthy vs. Cup + 4d.)** **L4: Prob > ChiSq = 0.002; p = 0.003 (Healthy vs. Cup + 4d.); p = 0.019 (Cup. + 7wks. vs. Cup. + 4d.)** **L5-6: Prob > ChiSq = 0.002; p = 0.005 (Healthy vs. Cup + 4d.); p = 0.009 (Cup. + 7wks. vs. Cup. + 4d.)** CC: Prob > ChiSq = 0.051
Fig. 8f	Percentage of MOBP-EGFP oligodendrocytes that are MOL1-positive across healthy, Cup. + 4d., and Cup. + 7 weeks groups	Percentage MOL1-positive oligodendrocytes across time point, treatment, and layers =	n = 8 mice (P140), n = 5 mice (Cup. + 4d.), n = 7 mice (Cup. + 7 weeks)	Two-way ANOVA no significant interaction.	Prob > F = 0.1397
Fig. 8g	Percentage of MOBP-EGFP oligodendrocytes that are MOL2/3-positive across healthy, Cup. + 4d., and Cup. + 7 weeks groups	Percentage MOL1-positive oligodendrocytes across time point, treatment, and layers	n = 8 mice (P140), n = 5 mice (Cup. + 4d.), n = 7 mice (Cup. + 7 weeks)	Two-way ANOVA no significant interaction.	Prob > F = 0.105
Fig. 8h	Percentage of MOBP-EGFP oligodendrocytes that are MOL5/6-positive across healthy, Cup. + 4d., and Cup. + 7 weeks groups	L4: 26.4±3.11 (Healthy P140) vs. 4.4±1.33 (Cup. + 4d.) L5-6: 31.3±3.09 (Healthy P140) vs. 1.9±0.82 (Cup. + 4d.); vs. 10.6±2.17 (Cup. + 7w.) CC: 46.4±4.69 (Healthy P140) vs. 4.9±1.58 (Cup. + 4d.) vs. 24.0±4.24 (Cup. + 7w.)	n = 8 mice (P140), n = 5 mice (Cup. + 4d.), n = 7 mice (Cup. + 7 weeks)	Shapiro-Wilk W Test not significant. Two-way ANOVA followed by Tukey's HSD.	**Prob > F = 0.004 (Condition x Layer), L4: p = 0.001 (Healthy P140 vs. Cup. + 4d.)** **L5/6: p <0.0001 (Healthy P140 vs. Cup. + 4d.); p <0.0007 (Healthy P140 vs. Cup. + 7wk.);** p = 0.834 (Cup. + 4d. Vs. Cup. + 7wk.) **CC: p < 0.0001 (Healthy P140 vs. Cup. + 4d.), p = 0.0001 (Healthy P140 vs. Cup. + 7wk.), p = 0.012 (Cup. + 4d. Vs. Cup. + 7wk.)**
Ext. Data Fig. 10	**Measure**	**Values**	**N**	**Statistical test**	**Significance**
Fig. 10a	Oligodendrocyte replacement rate (% per week) across one week time bins (unmodeled)	L1-3: 2.04±0.28 (healthy); 7.59±1.27 (Week 2); 7.69±1.06 (Week 3); 6.91±1.19 (Week 4) L4: 2.62±0.29 (healthy); 10.96±2.24 (Week 3); 9.35±1.70 (Week 4) L5-6: 2.11±0.24 (healthy); 11.13±2.02 (Week 3); 6.56±1.17 (Week 4) CC: 21.42±0.21 (healthy); 18.98±6.17 (Week 2); 25.99±9.04 (Week 3); 10.68±1.13 (Week 4)	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test significant. Kruskal-Wallis followed by Steel Method for nonparametric multiple comparisons with control.	**p = 0.034 for L1-3, Weeks 2-4 vs. Healthy; p = 0.034 for L4 Weeks 3-4 vs. Healthy; p = 0.034 for L5-6, Weeks 3-4 vs. Healthy; p = 0.034 for CC Weeks 2-4 vs. Healthy**
Fig. 10c	Full-width at half-maximum of the oligodendrocyte replacement response curve in (10b) by layer (days)	19.89±2.14 (L1-3) vs. 11.70±2.37 (CC)	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**p = 0.048**
Fig. 10d	Area under the curve (after subtraction of the healthy gain curve) of the oligodendrocyte replacement response in (10b) by layer	22.8±2.9 (L5-6) vs. 56.2±12.1% (CC)	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. One-way ANOVA followed by Tukey's HSD	**p = 0.037**
Fig. 10e	Full-width at half-maximum of the oligodendrocyte loss response by layer	15.10±2.23 (L1-3) vs. 13.04±2.08 (L4) vs. 12.06±1.13 (L5-6) vs. 10.64±1.91 (CC)	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test significant. Kruskal-Wallis test.	Prob > ChiSq = 0.515
Fig. 10f	Area under the curve (after subtraction of the healthy gain curve) of the oligodendrocyte loss response by layer	51.32±12.07 (L1-3) vs. 60.31±12.31 (L4) vs. 85.49±4.39 (L5-6) vs. 73.86±6.51 (CC)	n = 6 mice (healthy), n = 6 mice (cuprizone)	Shapiro-Wilk W Test not significant. One-way ANOVA	Prob > F = 0.087