Supplementary figures and tables:

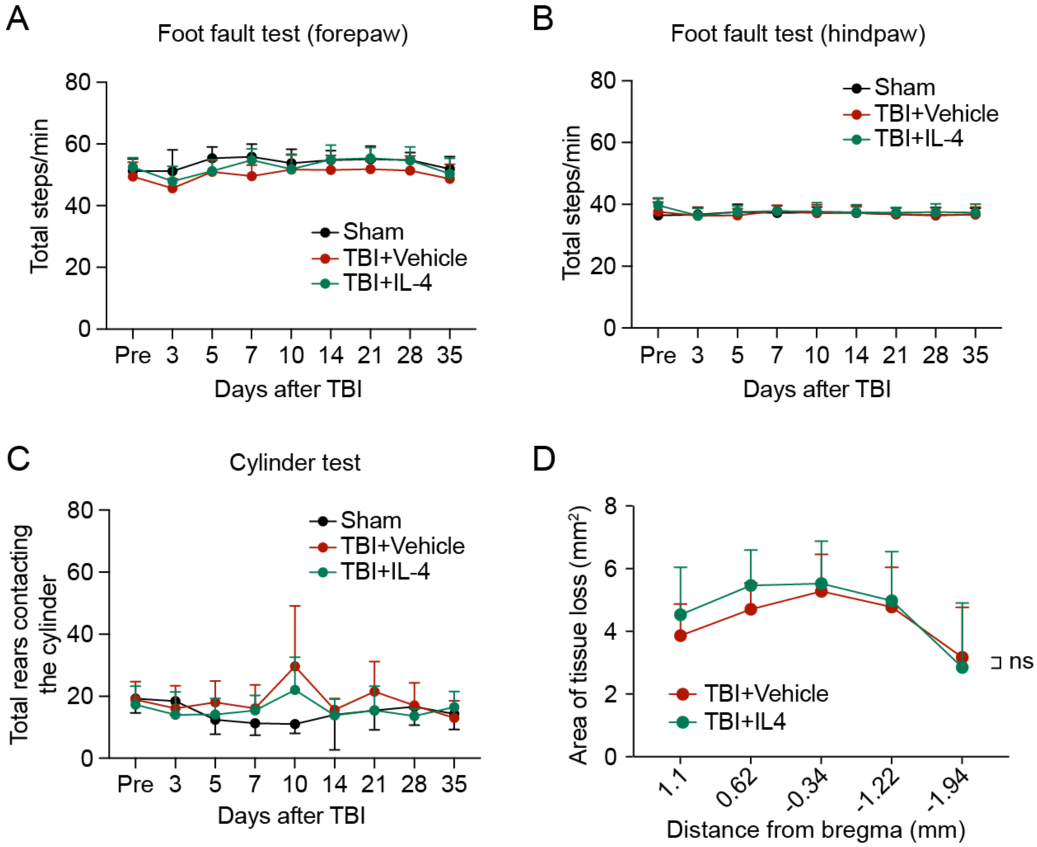


Fig S1. (A, B) Total number of steps of the forepaw (A) and hindpaw (B) in the foot fault test. (C) Total rears contacting the plexiglass wall in the cylinder test. (D) Two-dimensional area of tissue loss, plotted as a function of distance from Bregma. Foot fault test: n = 8 in sham group, n = 12 in TBI+Vehicle and TBI+IL-4 group. ns: no significance. Cylinder test: n = 10 per group in cylinder test. Tissue loss: n = 10 in TBI+Vehicle group, n = 12 in TBI+IL-4 group.

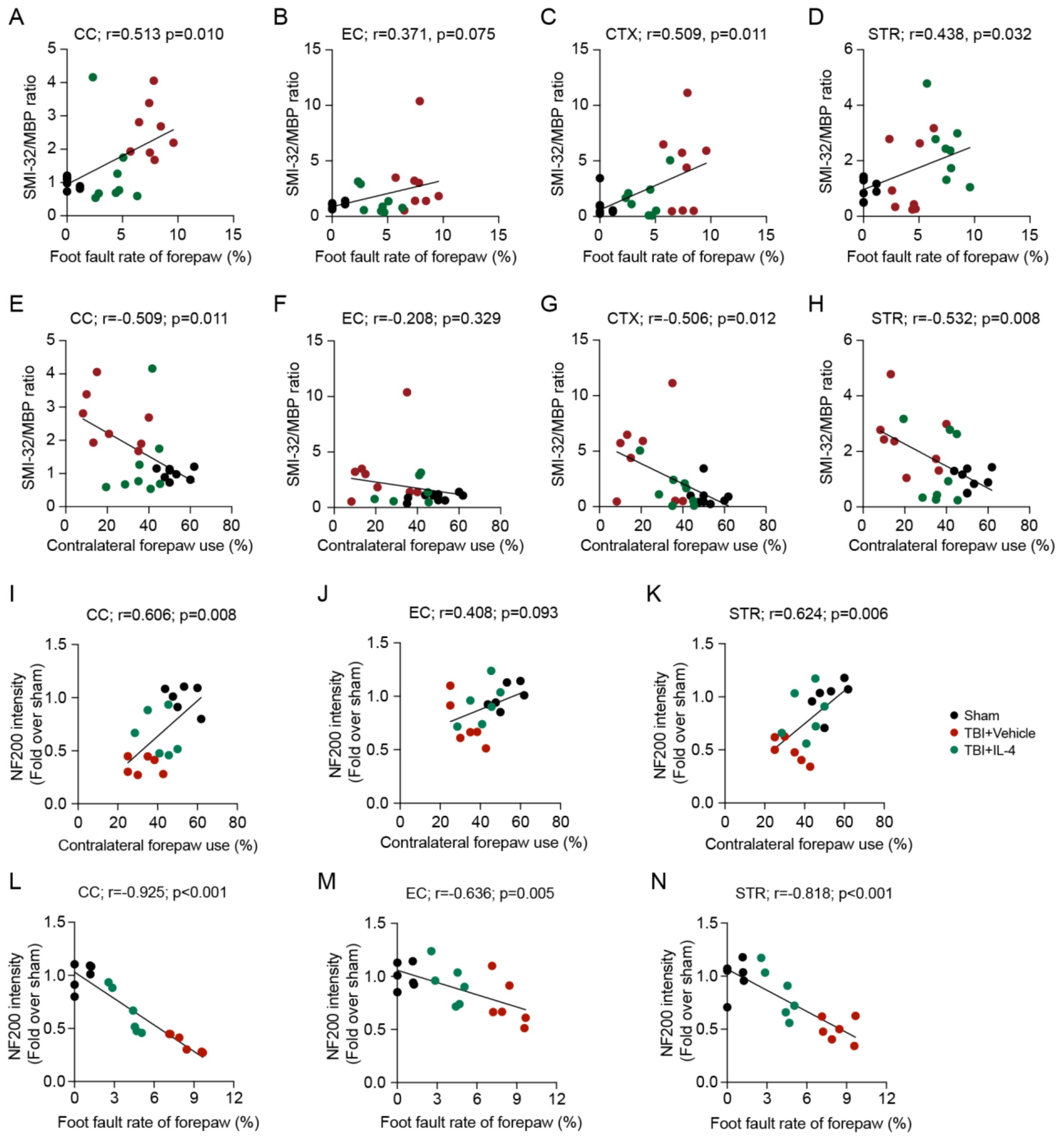


Fig S2. (A-D) Pearson correlations between the forelimb fault rates and the SMI32/MBP ratios in the CC, EC, CTX and STR. (E-H) Pearson correlations between the rate of contralateral forepaw use and the SMI32/MBP ratios in the CC, EC, CTX and STR. (I-K) Pearson correlations between the forelimb fault rate and NF200 immunolabelling intensity in the CC, EC, and STR. (L-N) Pearson correlations between the rate of contralateral forepaw use and NF200 intensity in the CC, EC, and STR. All testing was two-tailed.

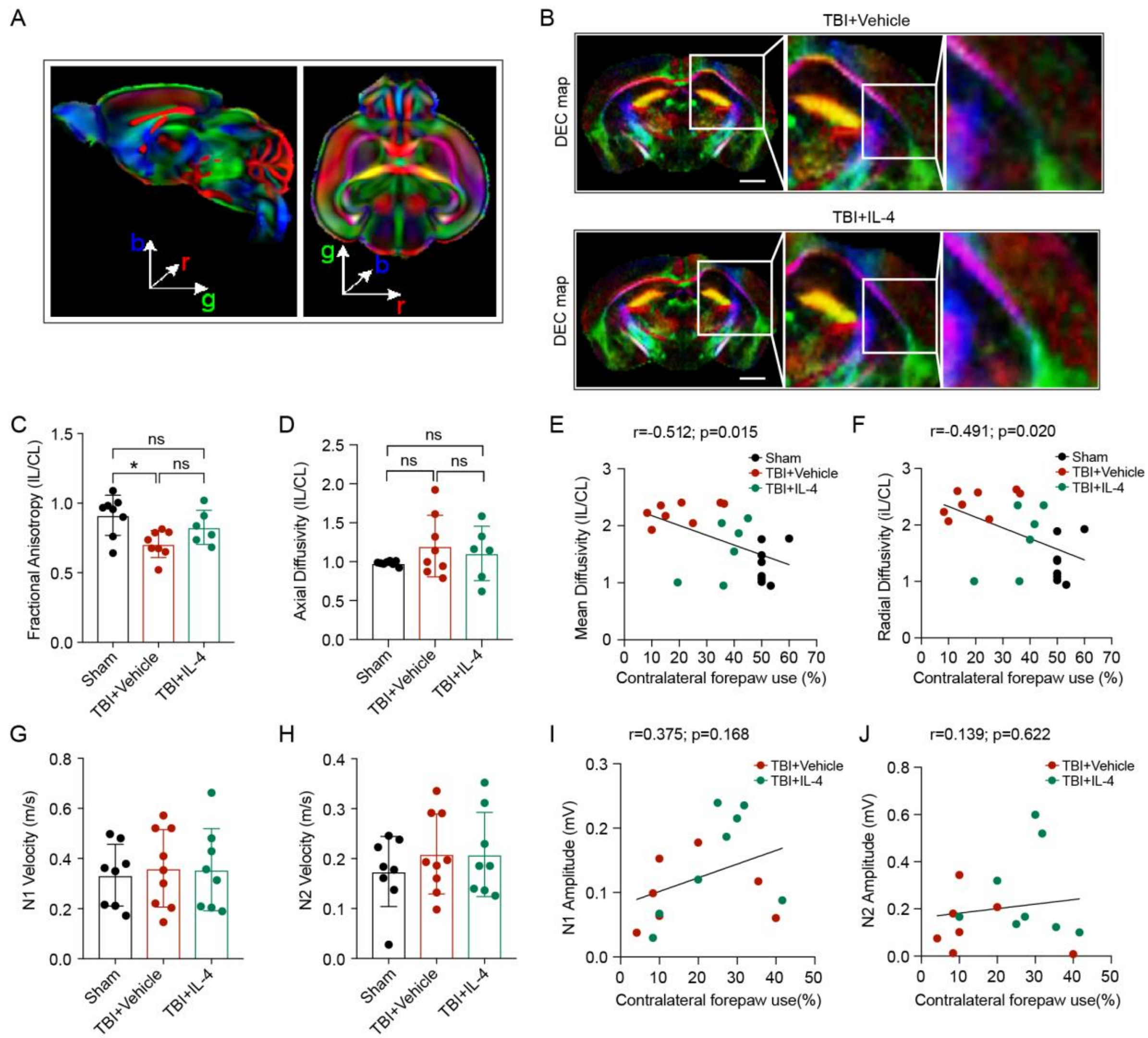


Fig S3. (A) Representative DTI images of the DEC map of sagittal (left) and horizontal (right) sections of the mouse brain. (B) DEC map, captured in the coronal plane of mouse brains from TBI+Vehicle and TBI+IL-4 groups. White boxes show where the enlarged images in the column on the right were captured. (C, D) Quantification of fractional anisotropy (FA) (C) and axial diffusivity (AD) (D) in the external capsule. IL: ipsilateral hemisphere, CL: contralateral hemisphere. n = 8 in sham and TBI+Vehicle group, n = 6 in TBI+IL-4 group. *p< 0.05, ns: no significance, by one-way ANOVA and Bonferroni post hoc tests. (E, F) Pearson correlations between contralateral forepaw use (%, cylinder test) and mean diffusivity (MD) (E) and radial diffusivity (RD) in the external capsule (F). n = 6-8 per group. (G, H) The transduction velocity of N1 (G) and

N2 (H). n = 8 in sham and TBI+IL-4 group, n = 9 in TBI+Vehicle group. (I, J) Pearson correlations between contralateral forepaw use (%, cylinder test) and N1 (I) or N2 (J) amplitudes.

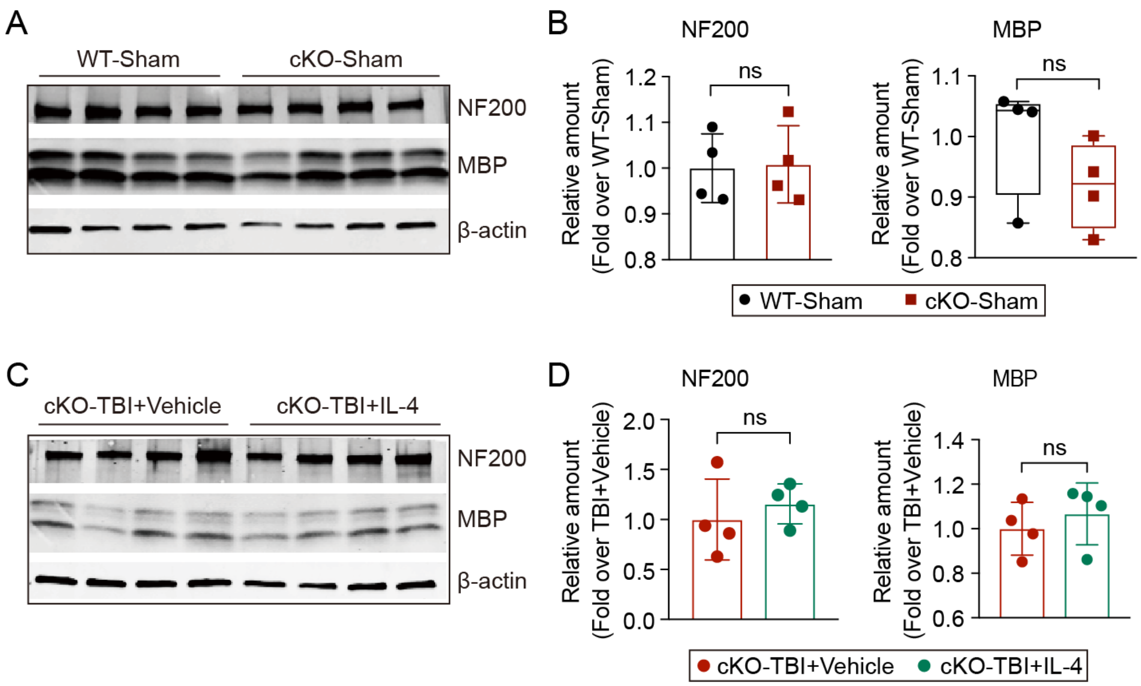


Fig S4. IL-4 treatment failed to enhance the expression of NF200 and MBP protein in OPC-PPARγ KO mice at 35 days after TBI. (A) Representative images of NF200 and MBP bands by western blot in sham-operated WT and PPARγ cKO mice. (B) Quantification of NF200 and MBP expression in western blots in A. (C) Representative images of NF200 and MBP bands by western blot in Vehicle- or IL-4-treated PPARγ cKO mice at 35 days after TBI. (D) Quantification of NF200 and MBP expression in western blots in C. ns, no significant difference by t-test or Mann-Whitney U test. n = 4 per group.

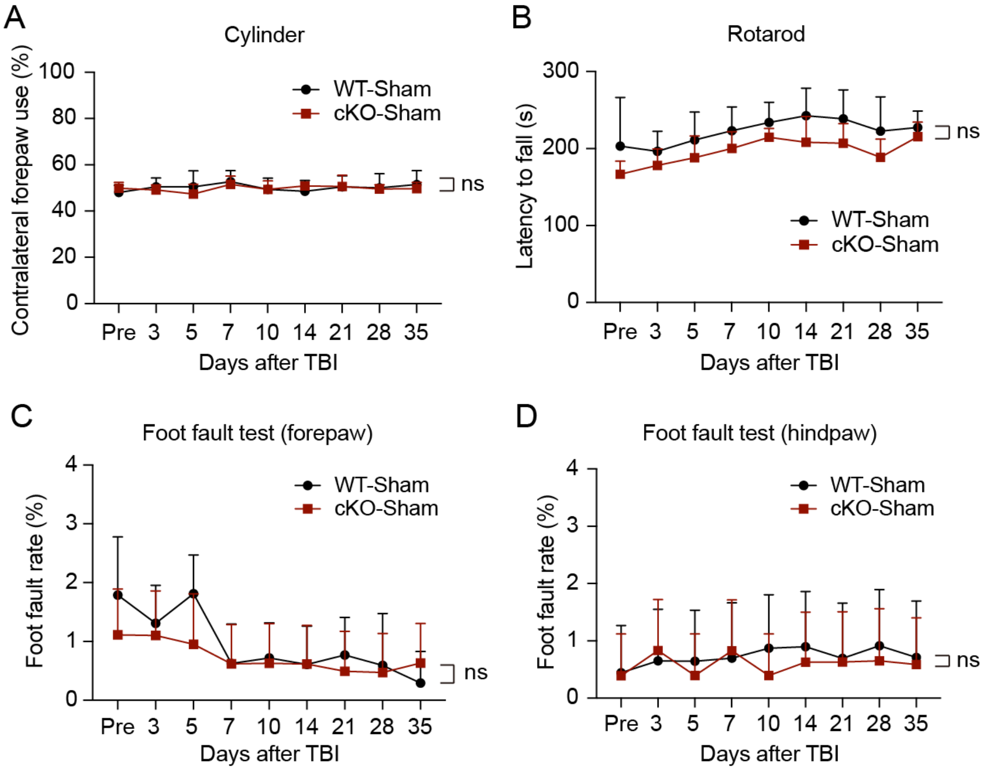


Fig S5. Conditional knockout of PPARγ in OPCs did not affect gross motor function in sham-operated mice. (A) Contralateral forepaw use showed no difference between WT and PPARγ cKO mice. (B) The latency to fall in the rotarod test showed no difference between WT and PPARγ cKO mice. (C, D) The foot fault rates of forepaws (C) and hindpaws (D) were comparable between WT and PPARγ cKO mice. ns: no significance by two-way repeated measures ANOVA and Bonferroni post hoc tests. n = 10 in WT-Sham group, n = 8 in cKO-Sham group in cylinder and rotarod tests. n = 8 per group in foot fault test.

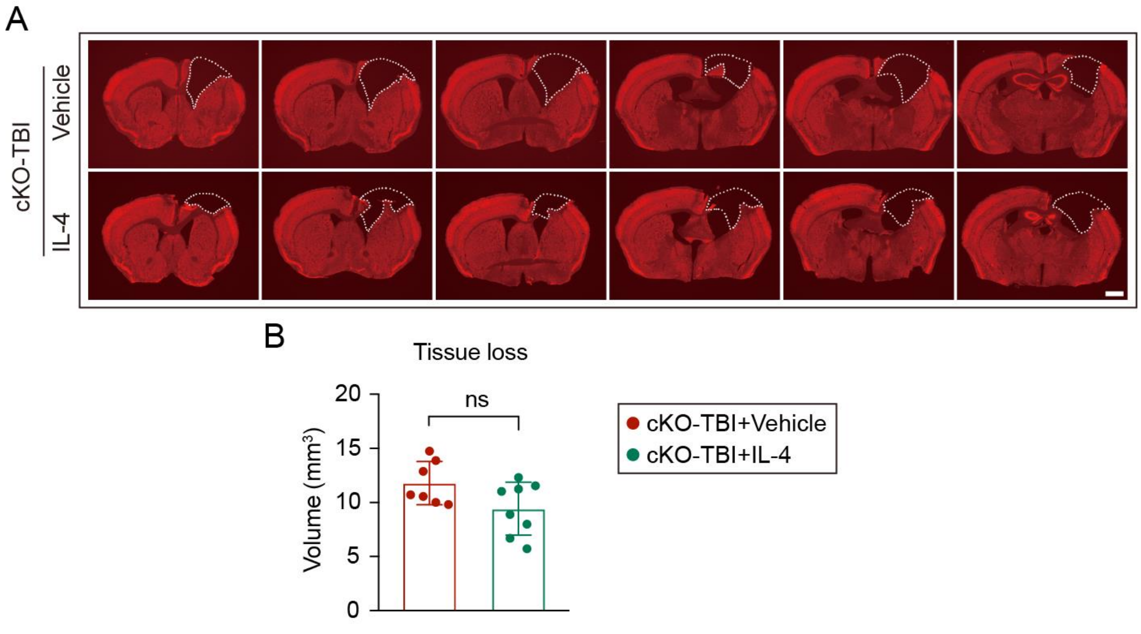
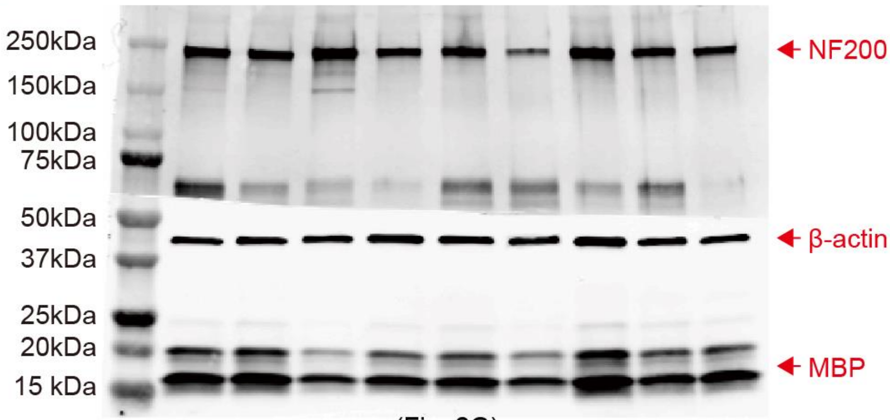


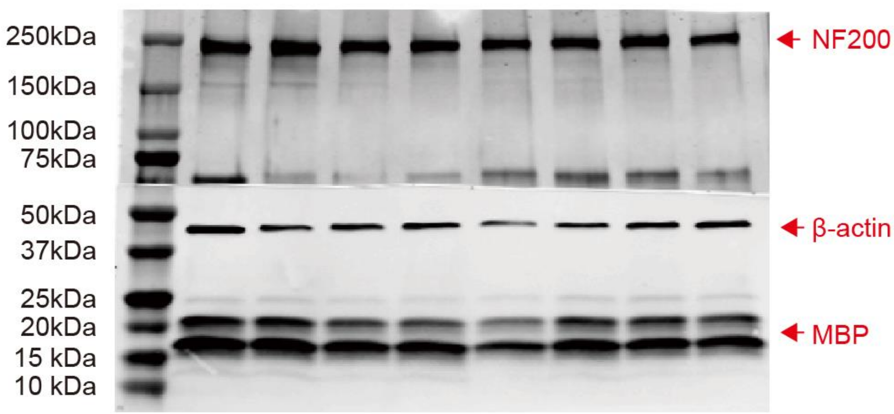
Fig S6. (A) Representative images of coronal brain sections showing NeuN immunostaining (red) 35 days after TBI. Dashed lines show the area of tissue loss. *Scale bar* = 1 mm. (B) Blinded quantification of volume of tissue loss, defined as the viable tissue volume of the ipsilateral hemisphere subtracted from the viable tissue volume of the contralateral hemisphere. ns, no significant difference by t-test. n = 7 in cKO-TBI+Vehicle group, n = 8 in cKO-TBI+IL-4 group.

A



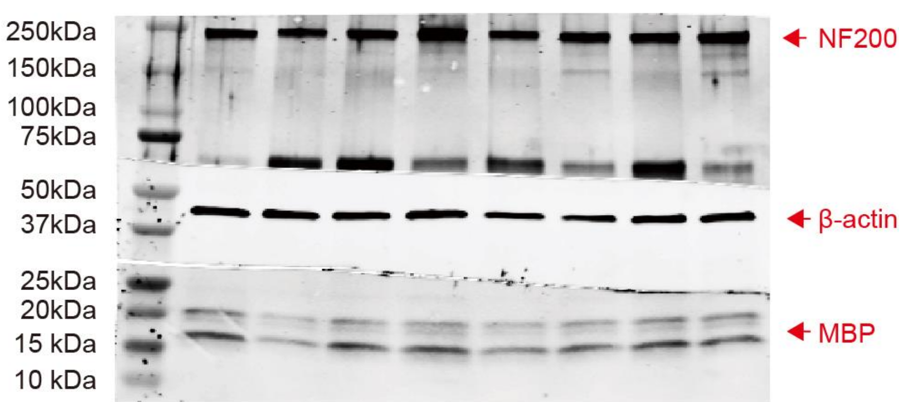
(Fig. 2G)

B



(Fig. S4A)

C



(Fig. S4C)

Fig S7. Images of full-length blots presented in figure 2G (A), figure S4A (B) and figure S4C (C).

Table S1: Number of animals used and mortality rates.

GENOTYPE	PROCEDURES AND ASSESSMENTS	ANIMALS USED	ANIMALS DIED	MORTALITY RATE (%)
WT mice	Behavior testing and histology on animals with long-term survival periods	Total: 30 (Sham group: 10; TBI+Vehicle group: 10; TBI+IL-4 group: 10)	0	0%
	Histology on short-term surviving animals	Total: 18 (Sham group: 6; TBI+Vehicle group: 6; TBI+IL-4 group: 6)	0	0%
	Diffusion tensor imaging	Total: 23 (Sham group: 8; TBI+Vehicle group: 9; TBI+IL-4 group: 6)	One mouse in TBI+Vehicle group died	4.35%
	Compound action potentials	Total: 24 (Sham group: 8; TBI+Vehicle group: 8; TBI+IL-4 group: 8)	0	0%
	Western blotting	Total: 15 (Sham group: 6; TBI+Vehicle group: 4; TBI+IL-4 group: 5)	0	0%
PPARg-cKO mice	Behavior testing and histology	Total: 43 (Sham group: 8; TBI+Vehicle group: 17; TBI+IL-4 group: 18)	0	0%

Table S2. Statistics reporting

FIGURE	n	DATA STRUCTURE	TEST USED	STATISTIC	P VALUE
Fig1.B	8 mice (Sham) 12 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,29)}$ =125.361	Sham vs TBI+Vehicle, P<0.001; TBI+Vehicle vs TBI+IL-4, P<0.001; Sham vs TBI+IL-4, P<0.001. 7d: P=0.002 (TBI+Vehicle vs TBI+IL-4); 10d: P=0.003 (TBI+Vehicle vs TBI+IL-4); 14d: P=0.001 (TBI+Vehicle vs TBI+IL-4); 21d: P=0.000 (TBI+Vehicle vs TBI+IL-4); 28d: P=0.000 (TBI+Vehicle vs TBI+IL-4); 35d: P=0.000 (TBI+Vehicle vs TBI+IL-4).
Fig 1C	8 mice (Sham) 12 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,29)}$ =550.398	Sham vs TBI+Vehicle, P<0.001; TBI+Vehicle vs TBI+IL-4, P<0.001; Sham vs IL-4+Vehicle, P<0.001. 5d: P=0.006 (TBI+Vehicle vs TBI+IL-4); 7d: P=0.014 (TBI+Vehicle vs TBI+IL-4); 10d: P=0.016 (TBI+Vehicle vs TBI+IL-4); 14d: P=0.019 (TBI+Vehicle vs TBI+IL-4); 21d: P=0.000 (TBI+Vehicle vs TBI+IL-4); 28d: P=0.002 (TBI+Vehicle vs TBI+IL-4); 35d: P=0.014 (TBI+Vehicle vs TBI+IL-4).
Fig 1D	10 mice (Sham) 10 mice (TBI+Vehicle) 10 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,27)}$ =28.173	Sham vs TBI+Vehicle, P<0.001; Sham vs TBI+IL-4, P<0.001; TBI+Vehicle vs TBI+IL-4, P=0.043 (from 21d to 35d). 21d: P=0.407 (TBI+Vehicle vs TBI+IL-4); 28d: P=0.078 (TBI+Vehicle vs TBI+IL-4); 35d: P=0.060 (TBI+Vehicle vs TBI+IL-4).
Fig 1F	10 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	t-test (two-tailed)	$t_{(20)}$=0.289	P=0.7755 (TBI+Vehicle vs TBI+IL-4)
Fig 2C	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn *post hoc*	$H_{(2)}$ =11.380	ANOVA P=0.003 P=0.014 (Sham vs TBI+Vehicle); P=0.008 (TBI+Vehicle vs TBI+IL-4); P>0.999 (Sham vs TBI+IL-4).
Fig 2D	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn *post hoc*	$H_{(2)}$=6.635	ANOVA P=0.036 P=0.093 (Sham vs TBI+Vehicle); P=0.065 (TBI+Vehicle vs TBI+IL-4); P>0.999 (Sham vs TBI+IL-4).

Fig 2E	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn *post hoc*	$H_{(2)}$=3.965	ANOVA P=0.138 P=0.156 (Sham vs TBI+Vehicle); P=0.537 (TBI+Vehicle vs TBI+IL-4); P>0.999 (Sham vs TBI+IL-4).
Fig 2F	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,21)}$ =4.227	P=0.033 (Sham vs TBI+Vehicle); P=0.142 (TBI+Vehicle vs TBI+IL-4); P=1.000 (Sham vs TBI+IL-4).
Fig 2H	6 mice (Sham) 4 mice (TBI+Vehicle) 5 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,12)}$ =5.154	P=0.043 (Sham vs TBI+Vehicle); P=0.044 (TBI+Vehicle vs TBI+IL-4); P=1.000 (Sham vs TBI+IL-4).
Fig 2I	6 mice (Sham) 4 mice (TBI+Vehicle) 5 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,12)}$ =7.028	P=0.025 (Sham vs TBI+Vehicle); P=0.014 (TBI+Vehicle vs TBI+IL-4); P=1.000 (Sham vs TBI+IL-4).
Fig 2K	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,15)}$ =27.872 (CC); $F_{(2,15)}$ =3.171 (EC); $F_{(2,15)}$ =12.803 (STR).	CC: P=0.000 (Sham vs TBI+Vehicle); P=0.011 (TBI+Vehicle vs TBI+IL-4); P=0.003 (Sham vs TBI+IL-4). EC: P=0.084 (Sham vs TBI+Vehicle); P=0.283 (TBI+Vehicle vs TBI+IL-4); P=1.000 (Sham vs TBI+IL-4). STR: P=0.001 (Sham vs TBI+Vehicle); P=0.012 (TBI+Vehicle vs TBI+IL-4); P=0.434 (Sham vs TBI+IL-4).
Fig 2M	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,15)}$ =103.325 (CC); $F_{(2,15)}$ =83.913 (EC); $F_{(2,15)}$ =122.642 (STR)	CC: P=0.000(Sham vs TBI+Vehicle); P=0.000 (TBI+Vehicle vs TBI+IL-4); P=0.000 (Sham vs TBI+IL-4). EC: P=0.000(Sham vs TBI+Vehicle); P=0.002 (TBI+Vehicle vs TBI+IL-4); P=0.000 (Sham vs TBI+IL-4). STR: P=0.000(Sham vs TBI+Vehicle); P=0.000 (TBI+Vehicle vs TBI+IL-4); P=0.000 (Sham vs TBI+IL-4).
Fig 3B	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post*	$F_{(2,19)}$ =14.479	P=0.000 (Sham vs TBI+Vehicle); P=0.006 (TBI+Vehicle vs TBI+IL-4); P=0.677 (Sham vs TBI+IL-4).

			hoc		
Fig 3C	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,19)}$ =12.769	P=0.000 (Sham vs TBI+Vehicle); P=0.020 (TBI+Vehicle vs TBI+IL-4); P=0.405 (Sham vs TBI+IL-4).
Fig 3D	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.705	P=0.000
Fig 3E	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.735	P=0.000
Fig 3H	7 mice (Sham) 7 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,19)}$ =19.935	P=0.000 (Sham vs TBI+Vehicle); P=0.081 (TBI+Vehicle vs TBI+IL-4); P=0.002 (Sham vs TBI+IL-4). Bracket of the last four points: P=0.000 (Sham vs TBI+Vehicle); P=0.045 (TBI+Vehicle vs TBI+IL-4); P=0.001 (Sham vs TBI+IL-4). 1000: P=0.049 (TBI+Vehicle vs TBI+IL-4). 1500: P=0.020 (TBI+Vehicle vs TBI+IL-4).
Fig 3I	7 mice (Sham) 7 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,19)}$ =14.256	P=0.000 (Sham vs TBI+Vehicle); P=0.617 (TBI+Vehicle vs TBI+IL-4); P=0.002 (Sham vs TBI+IL-4).
Fig 3J	7 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.512	P=0.052
Fig 3K	7 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.394	P=0.147
Fig 4C	6 fields from 3 independent experiments for each group	Normal distribution	One-way ANOVA Bonferroni *post*	$F_{(5,30)}$ =27.220	P=0.000 (Vehicle vs T3+CNTF, 2.5, 5, 10, 20); P=0.000 (2.5 vs T3+CNTF); P=0.001 (5 vs T3+CNTF).

			hoc		
Fig 4E	6 fields from 3 independent experiments for each group	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,15)}$ =51.742	P=0.015 (Vehicle vs CSPG); P=0.000 (Vehicle vs IL-4+CSPG); P=0.000 (CSPG vs IL-4+CSPG).
Fig 4G	6 fields from 3 independent experiments for each group	Normal distribution T3+CNTF); (0 ng/mL IL-4); (20ng/mL IL-4). Non-normal distribution: (10 ng/mL IL-4).	t-test (two tailed): (T3+CNTF); (0 ng/mL IL-4); (20ng/mL IL-4). Mann-Whitney test: (10ng/mL IL-4).	$t_{(10)}$=0.280 (T3+CNTF); $t_{(10)}$=0.548 (0 ng/mL IL-4); U=0 (10 ng/mL IL-4); $t_{(10)}$=6.898 (20 ng/mL IL-4).	P=0.785 (T3+CNTF: GW9662(-) vs GW9662(+)); P=0.596 (0mg/mL IL-4: GW9662(-) vs GW9662(+)); P=0.002 (10mg/mL IL-4; GW9662(-) vs GW9662(+)); P<0.001 (20mg/ml IL-4: GW9662(-) vs GW9662(+)).
Fig 5D	8 mice (Sham) 14 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,31)}$ =29.908	P=0.000 (Sham vs TBI+Vehicle); P=0.002 (TBI+Vehicle vs TBI+IL-4); P=0.000 (Sham vs TBI+IL-4).
Fig 5E	8 mice (Sham) 14 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,31)}$ =8.845	P=0.010 (Sham vs TBI+Vehicle); P=0.740 (TBI+Vehicle vs TBI+IL-4); P=0.001 (Sham vs TBI+IL-4, p=0.001).
Fig 5F	8 mice (Sham) 14 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,31)}$ =13.710	P=0.023 (Sham vs TBI+Vehicle); P=0.023 (TBI+Vehicle vs TBI+IL-4); P=0.000 (Sham vs TBI+IL-4, p=0.000).
Fig 5G	8 mice (Sham) 14 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,31)}$ =11.520	P=0.000 (Sham vs TBI+Vehicle); P=1.000 (TBI+Vehicle vs TBI+IL-4); P=0.001 (Sham vs TBI+IL-4).
Fig 5H	8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.439	P=0.089
Fig 5I	8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regressi	r=-0.562	P=0.024

			on analysis		
Fig 5J	8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.572	P=0.020
Fig 5K	8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.180	P=0.505
Fig 6B	6 mice (cKO-Sham); 9 mice (cKO-TBI+Vehicle); 6 mice (cKO-TBI+IL-4).	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,18)}$ =13.829	P=0.001 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.001 (cKO-Sham vs cKO-TBI+IL-4).
Fig 6C	6 mice (cKO-Sham); 9 mice (cKO-TBI+Vehicle); 6 mice (cKO-TBI+IL-4).	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn *post hoc*	$H_{(2)}$=8.634	ANOVA P = 0.008 P=0.016 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.061 (cKO-Sham vs cKO-TBI+IL-4).
Fig 6D	6 mice (cKO-Sham); 9 mice (cKO-TBI+Vehicle); 6 mice (cKO-TBI+IL-4).	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn *post hoc*	$H_{(2)}$ =11.950	ANOVA P = 0.001 P=0.003 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.017 (cKO-Sham vs cKO-TBI+IL-4).
Fig 6E	6 mice (cKO-Sham); 9 mice (cKO-TBI+Vehicle); 6 mice (cKO-TBI+IL-4).	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn *post hoc*	$H_{(2)}$=12.810	ANOVA P = 0.000 P=0.004 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.006 (cKO-Sham vs cKO-TBI+IL-4).
Fig 7B	6 mice (cKO-Sham); 7 mice (cKO-TBI+Vehicle); 8 mice (cKO-TBI+IL-4).	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn	$H_{(2)}$=9.746	ANOVA P = 004 P=0.029 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.012 (cKO-Sham vs cKO-TBI+IL-4).

			post hoc		
Fig 7C	6 mice (cKO-Sham); 7 mice (cKO-TBI+Vehicle); 8 mice (cKO-TBI+IL-4).	Non-normal distribution	One-way ANOVA on ranks (Kruskal - Wallis test); Dunn *post hoc*	$H_{(2)}$=0.318	ANOVA P=0.862 P>0999 (cKO-Sham vs cKO-TBI+Vehicle); P>0.999 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P>0.999 (cKO-Sham vs cKO-TBI+IL-4).
Fig 7D	6 mice (cKO-Sham); 7 mice (cKO-TBI+Vehicle); 8 mice (cKO-TBI+IL-4).	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,18)}$ =4.122	P=0.038 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.135 (cKO-Sham vs cKO-TBI+IL-4).
Fig 7E	6 mice (cKO-Sham); 7 mice (cKO-TBI+Vehicle); 8 mice (cKO-TBI+IL-4).	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2,18)}$ =11.090	P=0.027 (cKO-Sham vs cKO-TBI+Vehicle); P=0.294 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.001 (cKO-Sham vs cKO-TBI+IL-4).
Fig 7F	8 mice (cKO-Sham); 10 mice (cKO-TBI+Vehicle); 10 mice (cKO-TBI+IL-4).	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,25)}$ =36.202	P=0.000 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.000 (cKO-Sham vs cKO-TBI+IL-4).
Fig 7G	8 mice (cKO-Sham); 10 mice (cKO-TBI+Vehicle); 10 mice (cKO-TBI+IL-4).	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,25)}$ =30.471	P=0.000 (cKO-Sham vs cKO-TBI+Vehicle); P=1.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.000 (cKO-Sham vs cKO-TBI+IL-4).
Fig 7H	8 mice (cKO-Sham); 17 mice (cKO-TBI+Vehicle); 18 mice (cKO-TBI+IL-4).	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,40)}$ =505.913	P=0.000 (cKO-Sham vs cKO-TBI+Vehicle); P=0.024 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.000 (cKO-Sham vs cKO-TBI+IL-4).
Fig 7I	8 mice (cKO-Sham); 17 mice (cKO-TBI+Vehicle); 18 mice (cKO-TBI+IL-4).	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2,40)}$ =756.370	P=0.000 (cKO-Sham vs cKO-TBI+Vehicle); P=0.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.000 (cKO-Sham vs cKO-TBI+IL-4). 14d: P=0.019 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); 21d: P=0.000 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); 28d: P=0.020 (cKO-TBI+Vehicle vs cKO-TBI+IL-4); 35d: P=0.007 (cKO-TBI+Vehicle vs cKO-TBI+IL-4).

Fig S1A	8 mice (Sham) 12 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2, 29)}$ =9.025	P=0.310 (Sham vs TBI+Vehicle); P=0.090 (TBI+Vehicle vs TBI+IL-4); P=0.072 (Sham vs TBI+IL-4).
Fig S1B	8 mice (Sham) 12 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2, 29)}$ =1.436	P>0.999 (Sham vs TBI+Vehicle); P=0.138 (TBI+Vehicle vs TBI+IL-4); P=0.180 (Sham vs TBI+IL-4).
Fig S1C	10 mice (Sham) 10 mice (TBI+Vehicle) 10 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(2, 27)}$ =2.083	P>0.999 (Sham vs TBI+Vehicle); P=0.818 (TBI+Vehicle vs TBI+IL-4); P>0.999 (Sham vs TBI+IL-4).
Fig S1D	10 mice (TBI+Vehicle) 12 mice (TBI+IL-4)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(1, 100)}$ =1.325	P=0.253 (TBI+Vehicle vs TBI+IL-4).
Fig S2A	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.513	P=0.010
Fig S2B	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.371	P=0.075
Fig S2C	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.509	P=0.011
Fig S2D	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.438	P=0.032
Fig S2E	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.509	P=0.011

Fig S2F	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.208	P=0.329
Fig S2G	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.506	P=0.012
Fig S2H	8 mice (Sham) 8 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.532	P=0.008
Fig S2I	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.606	P=0.008
Fig S2J	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.408	P=0.093
Fig S2K	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.624	P=0.006
Fig S2L	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.925	P<0.001
Fig S2M	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.636	P=0.005
Fig S2N	6 mice (Sham) 6 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.818	P<0.001

Fig S3C	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2, 19)}=0.162$	P=0.010 (Sham vs TBI+Vehicle); P=0.258 (TBI+Vehicle vs TBI+IL-4); P=0.634 (Sham vs TBI+IL-4).
Fig S3D	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2, 19)}=4.371$	P=0.483 (Sham vs TBI+Vehicle); P>0.999 (TBI+Vehicle vs TBI+IL-4); P>0.999 (Sham vs TBI+IL-4).
Fig S3E	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.512	P=0.015
Fig S3F	8 mice (Sham) 8 mice (TBI+Vehicle) 6 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=-0.491	P=0.020
Fig S3G	8 mice (Sham) 9 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2, 19)}=0.146$	P>0.999 (Sham vs TBI+Vehicle); P>0.999 (TBI+Vehicle vs TBI+IL-4); P>0.999 (Sham vs TBI+IL-4).
Fig S3H	8 mice (Sham) 9 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	Normal distribution	One-way ANOVA Bonferroni *post hoc*	$F_{(2, 19)}=0.093$	P=0.778 (Sham vs TBI+Vehicle); P>0.999 (TBI+Vehicle vs TBI+IL-4); P>0.999 (Sham vs TBI+IL-4).
Fig S3I	7 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.375	P=0.168
Fig S3J	7 mice (TBI+Vehicle) 8 mice (TBI+IL-4)	NA	Pearson product linear regression analysis	r=0.139	P=0.622
Fig S4B	4 mice (WT-Sham) 4 mice (cKO-Sham)	Normal distribution: NF200; Non-normal distribution: MBP	t-test (two tailed): NF200; Mann-Whitney test:	$t_{(6)}=0.149$ (NF200); U=3.000 (MBP)	P=0.887 (NF200: WT-Sham vs cKO-Sham); P=0.200 (MBP: WT-Sham vs cKO-Sham);

			MBP		
Fig S4D	4 mice (cKO-TBI+Vehicle) 4 mice (cKO-TBI+IL-4)	Normal distribution	t-test (two tailed)	$t_{(6)}$=0.690 (NF200); $t_{(6)}$=0.735 (MBP)	P=0.516 (NF200: cKO-TBI+Vehicle vs cKO-TBI+IL-4); P=0.490 (cKO-TBI+Vehicle vs cKO-TBI+IL-4);
Fig S5A	10 mice (WT-Sham) 8 mice (cKO-Sham)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(1, 16)}$ =0.1413	P=0.712 (WT-Sham vs cKO-Sham)
Fig S5B	10 mice (WT-Sham) 8 mice (cKO-Sham)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(1, 16)}$ =3.110	P=0.097 (WT-Sham vs cKO-Sham)
Fig S5C	8 mice (WT-Sham) 8 mice (cKO-Sham)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(1, 14)}$ =1.223	P=0.287 (WT-Sham vs cKO-Sham)
Fig S5D	8 mice (WT-Sham) 8 mice (cKO-Sham)	Normal distribution	Two-way RM ANOVA; Bonferroni *post hoc*	$F_{(1, 14)}$ =0.724	P=0.409 (WT-Sham vs cKO-Sham)
Fig S6B	7 mice (cKO-TBI+Vehicle) 8 mice (cKO-TBI+IL-4)	Normal distribution	t-test (two tailed)	$t_{(13)}$=2.028	P=0.064 (cKO-TBI+Vehicle vs cKO-TBI+IL-4)