

**Table S1.** Primer sequences used for gene expression analyses.  
All primers used for expression analysis are intron-spanning.

<b>Mouse</b>	<b>Primer sequence 5'-3'; forward – reverse</b>
<i>Rplp0</i>	GATGCCCAGGGAAGACAG – ACAATGAAGCATTGATAATCA
<i>Hprt</i>	TCCTCCTCAGACCGCTTTT – CCTGGTTCATCATCGCTAATC
<i>Plp1</i>	TCAGTCTATTGCCTTCCCTAGC – AGCATTCCATGGGAGAACAC
<i>Car2</i>	CAAGCACAACGGACCAGA – ATGAGCAGAGGCTGTAGG
<i>Olig2</i>	AGACCGAGCCAACACCAG – AAGCTCTCGAATGATCCTTCTTT
<i>Aif1</i>	TGTTTTTCTCCTCATAACATCAGAATC – CCGAGGAGACGTTCCAGCTAC
<i>Lamp2</i>	AAGGTGCAACCTTTTAATGTGAC – TGTCATCATCCAGCGAACAC
<i>Gfap</i>	TGCTCCTGCTTCGAGTCCTT – CAAGAGGAACATCGTGGTAAAGA
<i>Ocln</i>	TCCGTGAGGCCTTTTGAA – GGTGCATAATGATTGGGTTTG
<i>Aqp4</i>	TGGAGGATTGGGAGTCACC – TGAACACCAACTGGAAAGTGA
<i>Cldn5</i>	ACGGGAGGAGCGCTTTAC – GTTGGCGAACCCAGCAGAG
<i>Tjp1</i>	ATGCAGACCCAGCAAAGGT – TGACCAAGAGCTGGTTGTTTT
<i>Cdh1</i>	ATCCTCGCCCTGCTGATT – ACCACCGTTCTCCTCCGTA
<i>Cdh5</i>	TCATCAAACCCACGAAGTCC – GGTCTGTGGCCTCAATGTAGA
<i>Pecam1</i>	GCTGGTGCTCTATGCAAGC – ATGGATGCTGTTGATGGTGA
<i>Shh</i>	TCCACTGTTCTGTGAAAGCAG – GGGACGTAAGTCCTTACCA
<i>Cav1</i>	ACCCCAAGCATCTCAACG – CACAGTGAAGGTGGTGAAGC
<i>Cav2</i>	CCTCACCAGCTCAACTCTCA – TCACATATTTGCTGATTTCAAAGAG
<i>Abcb1a</i>	GGGCATTTACTTCAAACCTTGTC – TTTACAAGCTTCATTTCTAATTCAA
<i>Abcb1b</i>	AGTGGACCCAACAGTACTCTGAT – GCACCAATCCCGGTGTAATA
<i>Vegfa</i>	TTACTGCTGTACCTCCACC – ACAGGACGGCTTGAAGATG
<i>Hif1a</i>	CATGATGGCTCCCTTTTTTCA – GTCACCTGGTTGCTGCAATA
<i>Nos2</i>	TGAACTTGAGCGAGGAGCA – TTCATGATAACGTTTCTGGCTCT
<i>Nos3</i>	CCAGTGCCCTGCTTCATC – GCAGGGCAAGTTAGGATCAG
<i>Tgfb1</i>	TGGAGCAACATGTGGAAGTCC – CAGCAGCCGGTTACCAAG
<i>Mmp9</i>	CAGAGGTAACCCACGTCAGC – GGGATCCACCTTCTGAGACTT
<i>Tnf</i>	TGCCTATGTCTCAGCCTCTTC – GAGGCCATTTGGGAAGTCT
<i>Ifng</i>	TCAAGTGGCATAGATGTGGAAGAA – TGGCTCTGCAGGATTTTCATG
<i>Il1b</i>	GCTACCAAACCTGGATATAATCAGGA – CCAGGTAGCTATGGTACTCCAGAA
<i>Il2</i>	CGCAGAGGTCCAAGTTCATCT – CGCAGAGGTCCAAGTTCATCT
<i>Il6</i>	GCTACCAAACCTGGATATAATCAGGA – CCAGGTAGCTATGGTACTCCAGAA
<i>Ccl2</i>	GCCTGCTGTTACAGTTGC – CAGGTGAGTGGGGCGTTA
<i>Ccl3</i>	TGCCCTTGCTGTTCTTCTCT – GTGGAATCTTCCGGCTGTAG
<i>Ccl6</i>	TCTTTATCCTTGTGGCTGTCC – TGGAGGGTTATAGCGACGAT
<i>Cxcl10</i>	GCTGCCGTCAATTTCTGC – TCTCACTGGCCCGTCATC
<b>Rat</b>	
<i>Rplp0</i>	GATGCCCAGGGAAGACAG – ACAATGAAGCATTGATAATCA
<i>Hprt</i>	GGTCCATTCCTATGACTGTAGATTTT – CAATCAAGACGTTCTTTCCAGTT
<i>Ocln</i>	ATCTAGAGCCTGGAGCAACG – GTCAAGGCTCCCAAGACAAG
<i>Cldn5</i>	GGTCTTTAGCCATGGGGTCT – CAGCCTACCAGACACAGCAC
<i>Tjp1</i>	GCATGTAGACCCAGCAAAGG – GGTGTTGTCTCATATTTCTCA
<i>Pecam1</i>	CTCAGTCGGCTGACAAGATG – AGGCTTGCATAGAGCAGCAT
<i>Abcb1a</i>	GAAAGGAATTTACTTCAAACCTTGTC – CACAAGCTTCATTTCTAATTCAA
<i>Tgfb1</i>	GGACTCTCCACCTGCAAGAC – GACTGGCGAGCCTTAGTTTG
<i>Tnf</i>	TGTCTGTGCCTCAGCCTCTTC – GAGCCCATTTGGGAAGTCT
<i>Il6</i>	CCCTTCAGGAACAGCTATGAA – ACAACATCAGTCCCAAGAAGG
<i>Ccl2</i>	CAGAAACCAGCCAACCTCTCA – GTGGGGCATTAACTGCATCT

**Table S2. Quantification of gene expression in corpus callosum.**

Wild type animals were treated with cuprizone for 5 days or 5 weeks or left untreated, and gene expression was determined in dissected corpus callosum. Data are expressed as mean of N=4-5 animals  $\pm$  SEM normalized to untreated controls. Significance (P value) was determined by Student's t-test (n.d., not determined).

Gene symbol	Fold expression		Significance to control (P)	
	5 days cuprizone	5 weeks cuprizone	5 days cuprizone	5 weeks cuprizone
<i>Gfap</i>	4.26 $\pm$ 0.29	11.16 $\pm$ 0.78	0.0000	0.0000
<i>Aqp4</i>	1.28 $\pm$ 0.10	2.74 $\pm$ 0.01	0.1520	0.0001
<i>Aif1</i>	2.91 $\pm$ 0.25	7.55 $\pm$ 0.68	0.0000	0.0000
<i>Lamp2</i>	2.49 $\pm$ 0.09	3.25 $\pm$ 0.21	0.0001	0.0000
<i>Plp1</i>	0.04 $\pm$ 0.01	0.28 $\pm$ 0.07	0.0000	0.0024
<i>Car2</i>	1.02 $\pm$ 0.02	0.15 $\pm$ 0.03	0.8941	0.0002
<i>Olig2</i>	0.15 $\pm$ 0.01	0.39 $\pm$ 0.06	0.0000	0.0043
<i>Pecam1</i>	0.18 $\pm$ 0.02	0.16 $\pm$ 0.01	0.0000	0.0000
<i>Ocln</i>	0.62 $\pm$ 0.01	0.55 $\pm$ 0.02	0.0019	0.0000
<i>Cldn5</i>	0.22 $\pm$ 0.01	0.33 $\pm$ 0.03	0.0003	0.0122
<i>Tjp1</i>	0.29 $\pm$ 0.05	0.27 $\pm$ 0.02	0.0008	0.0016
<i>Cdh1</i>	0.13 $\pm$ 0.01	0.88 $\pm$ 0.02	0.0032	0.9066
<i>Cdh5</i>	0.33 $\pm$ 0.02	0.50 $\pm$ 0.04	0.0000	0.0001
<i>Shh</i>	0.48 $\pm$ 0.09	0.14 $\pm$ 0.03	0.0379	0.0005
<i>Vegfa</i>	0.05 $\pm$ 0.01	0.08 $\pm$ 0.01	1.0000	0.0316
<i>Hif1a</i>	0.23 $\pm$ 0.03	0.55 $\pm$ 0.05	0.0732	0.0000
<i>Abcb1a</i>	0.17 $\pm$ 0.01	n.d.	0.0000	-
<i>Abcb1b</i>	0.14 $\pm$ 0.01	n.d.	0.0000	-
<i>Cav1</i>	0.59 $\pm$ 0.04	3.16 $\pm$ 0.16	0.0031	0.0000
<i>Cav2</i>	0.48 $\pm$ 0.04	0.69 $\pm$ 0.04	0.0002	0.0018
<i>Nos2</i>	1.48 $\pm$ 0.02	5.86 $\pm$ 0.33	0.0000	0.0002
<i>Nos3</i>	1.70 $\pm$ 0.03	4.07 $\pm$ 0.23	0.0002	0.0000
<i>Tgf1b</i>	1.13 $\pm$ 0.04	5.99 $\pm$ 0.60	0.1387	0.0000
<i>Tnf</i>	16.08 $\pm$ 1.85	58.85 $\pm$ 2.90	0.0000	0.0000
<i>Ifng</i>	1.58 $\pm$ 0.10	1.86 $\pm$ 0.20	0.0354	0.0272
<i>Il1b</i>	9.70 $\pm$ 0.67	58.52 $\pm$ 5.10	0.0000	0.0000
<i>Il2</i>	1.01 $\pm$ 0.01	1.37 $\pm$ 0.06	1.0000	0.0369
<i>Il6</i>	23.65 $\pm$ 1.01	9.43 $\pm$ 1.37	0.0000	0.0001
<i>Ccl2</i>	5.89 $\pm$ 0.40	273.20 $\pm$ 21.5	0.0000	0.0000
<i>Ccl3</i>	14.60 $\pm$ 1.41	231.15 $\pm$ 25.0	0.0000	0.0000
<i>Ccl6</i>	1.19 $\pm$ 0.05	144.95 $\pm$ 12.9	0.0629	0.0000
<i>Cxcl10</i>	42.64 $\pm$ 4.86	62.67 $\pm$ 4.15	0.0000	0.0000

**Table S3. Quantification of gene expression in cortex.**

Wild type animals were treated with cuprizone for 5 days or left untreated, and gene expression was determined in dissected cortex. Data are expressed as mean of N=4 animals  $\pm$  SEM normalized to untreated controls. Significance (P value) was determined by Student's t-test.

<b>Gene symbol</b>	<b>Fold expression</b>	<b>Significance to control (P)</b>
<i>Gfap</i>	4.24 $\pm$ 0.17	0.0000
<i>Aqp4</i>	0.99 $\pm$ 0.02	0.8514
<i>Aif1</i>	1.29 $\pm$ 0.03	0.0110
<i>Lamp2</i>	0.99 $\pm$ 0.04	0.8964
<i>Plp1</i>	0.17 $\pm$ 0.01	0.0000
<i>Car2</i>	1.06 $\pm$ 0.04	0.4867
<i>Olig2</i>	1.05 $\pm$ 0.03	0.6113
<i>Pecam1</i>	0.64 $\pm$ 0.05	0.0254
<i>Ocln</i>	0.76 $\pm$ 0.02	0.0034
<i>Cldn5</i>	0.49 $\pm$ 0.04	0.0009
<i>Tjp1</i>	0.58 $\pm$ 0.05	0.0060
<i>Cdh1</i>	1.09 $\pm$ 0.06	0.4855
<i>Cdh5</i>	0.99 $\pm$ 0.04	0.7884
<i>Shh</i>	1.06 $\pm$ 0.07	0.7815
<i>Vegfa</i>	1.07 $\pm$ 0.07	0.5894
<i>Abcb1a</i>	0.77 $\pm$ 0.03	0.0045
<i>Abcb1b</i>	1.01 $\pm$ 0.04	0.9245
<i>Cav1</i>	1.07 $\pm$ 0.05	0.5052
<i>Cav2</i>	0.76 $\pm$ 0.00	0.0298
<i>Nos2</i>	1.09 $\pm$ 0.01	0.0996
<i>Nos3</i>	1.08 $\pm$ 0.03	0.2227
<i>Tgf1b</i>	0.99 $\pm$ 0.11	0.8205
<i>Tnf</i>	2.36 $\pm$ 0.17	0.0005
<i>Ifng</i>	1.17 $\pm$ 0.10	0.4034
<i>Il1b</i>	2.30 $\pm$ 0.12	0.0017
<i>Il2</i>	1.03 $\pm$ 0.04	0.8974
<i>Il6</i>	2.12 $\pm$ 0.11	0.0010
<i>Ccl2</i>	3.43 $\pm$ 0.37	0.0014
<i>Ccl3</i>	5.44 $\pm$ 0.66	0.0001
<i>Ccl6</i>	1.06 $\pm$ 0.03	0.2905
<i>Cxcl10</i>	25.23 $\pm$ 1.12	0.0000

**Table S4. Quantification of gene expression in acutely isolated cells.**

Wild type or CXCR3 deficient animals were treated with cuprizone for 5 or left untreated, and cells were isolated by magnetic bead assisted sorting followed by gene expression in samples of individual mice. Data are expressed as mean of N=3-4 animals  $\pm$  SEM normalized to untreated controls. Significance (P value) was determined by Student's t-test.

Gene symbol	Fold expression		
	Wild type	CXCR3	Significance (P)
<b>Oligodendroglia</b>			
<i>Plp</i>	0.05 $\pm$ 0.01	0.05 $\pm$ 0.01	0.7238
<i>Tnf</i>	4.46 $\pm$ 0.25	2.00 $\pm$ 0.26	0.0036
<i>Il1b</i>	1.09 $\pm$ 0.03	1.21 $\pm$ 0.05	0.1515
<i>Il6</i>	1.08 $\pm$ 0.03	0.26 $\pm$ 0.01	0.0000
<i>Ccl2</i>	1.04 $\pm$ 0.02	1.08 $\pm$ 0.01	0.2341
<b>Microglia</b>			
<i>Aif1</i>	1.38 $\pm$ 0.08	1.26 $\pm$ 0.08	0.4431
<i>Tnf</i>	3.13 $\pm$ 0.08	1.31 $\pm$ 0.10	0.0011
<i>Il1b</i>	1.47 $\pm$ 0.15	1.10 $\pm$ 0.03	0.0954
<i>Il6</i>	1.09 $\pm$ 0.02	1.08 $\pm$ 0.01	0.5409
<i>Ccl2</i>	1.09 $\pm$ 0.04	1.18 $\pm$ 0.04	0.2709
<b>Astroglia</b>			
<i>Gfap</i>	18.37 $\pm$ 1.87	8.64 $\pm$ 0.52	0.0061
<i>Tnf</i>	43.74 $\pm$ 4.51	1.36 $\pm$ 0.11	0.0000
<i>Il1b</i>	24.49 $\pm$ 0.63	1.84 $\pm$ 0.31	0.0004
<i>Il6</i>	11.55 $\pm$ 2.19	1.77 $\pm$ 0.13	0.0019
<i>Ccl2</i>	116.96 $\pm$ 16.45	1.08 $\pm$ 0.09	0.0000
<b>Endothelial cells</b>			
<i>Pecam1</i>	0.74 $\pm$ 0.01	1.04 $\pm$ 0.04	0.0099
<i>Tnf</i>	6.48 $\pm$ 0.31	1.42 $\pm$ 0.10	0.0001
<i>Il1b</i>	4.14 $\pm$ 0.71	1.16 $\pm$ 0.17	0.0131
<i>Il6</i>	0.93 $\pm$ 0.06	0.02 $\pm$ 0.01	0.0001
<i>Ccl2</i>	3.50 $\pm$ 0.39	1.40 $\pm$ 0.07	0.0049