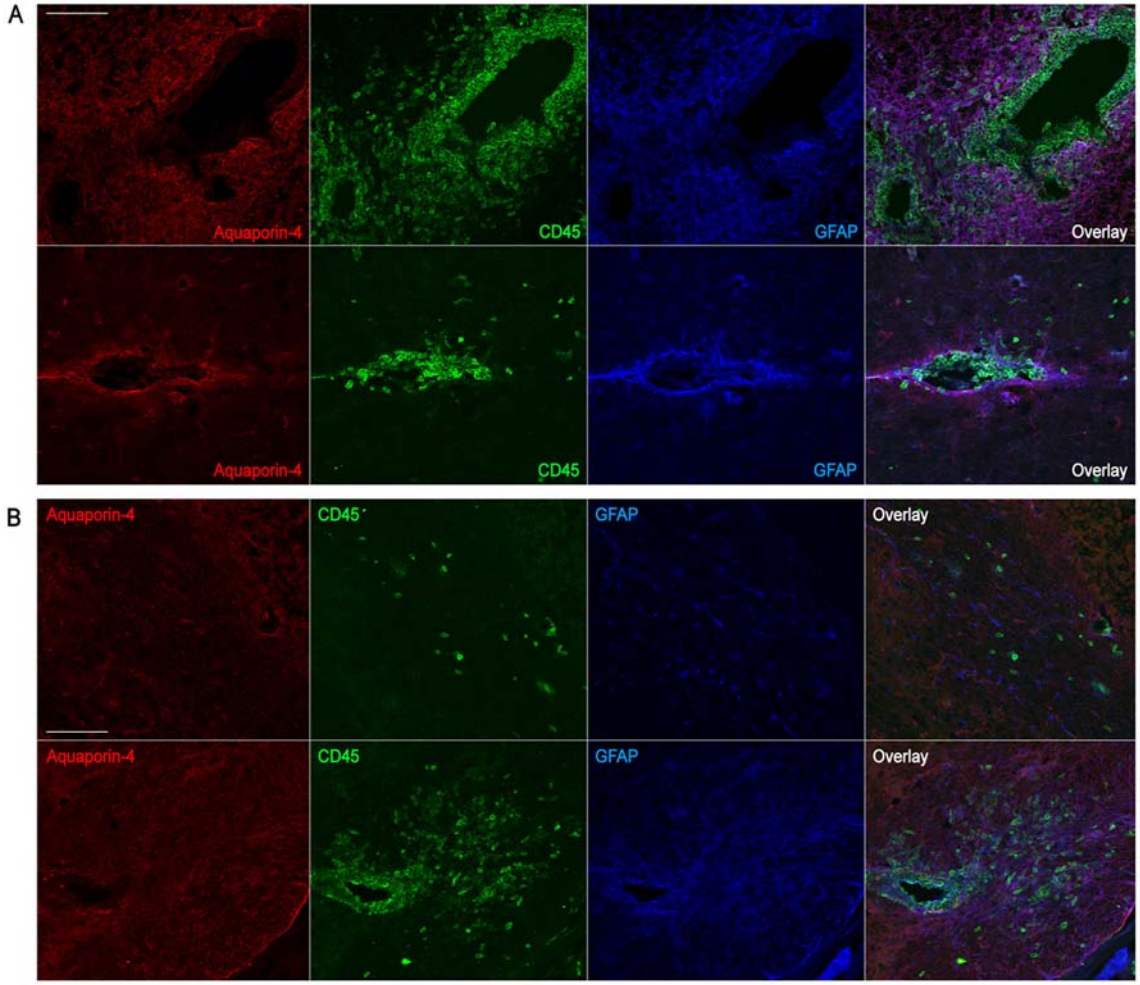
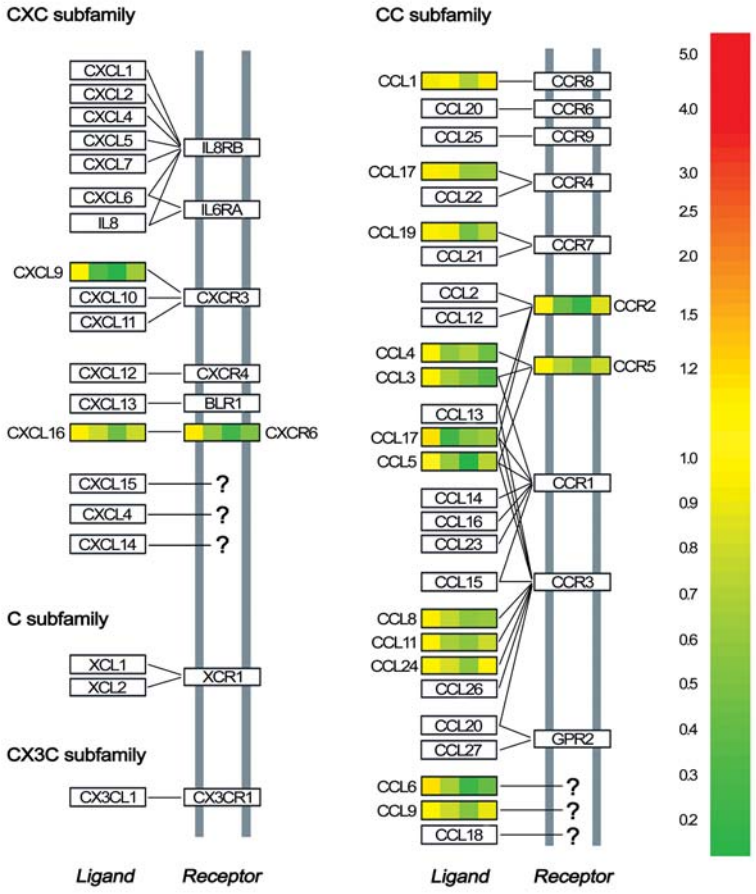
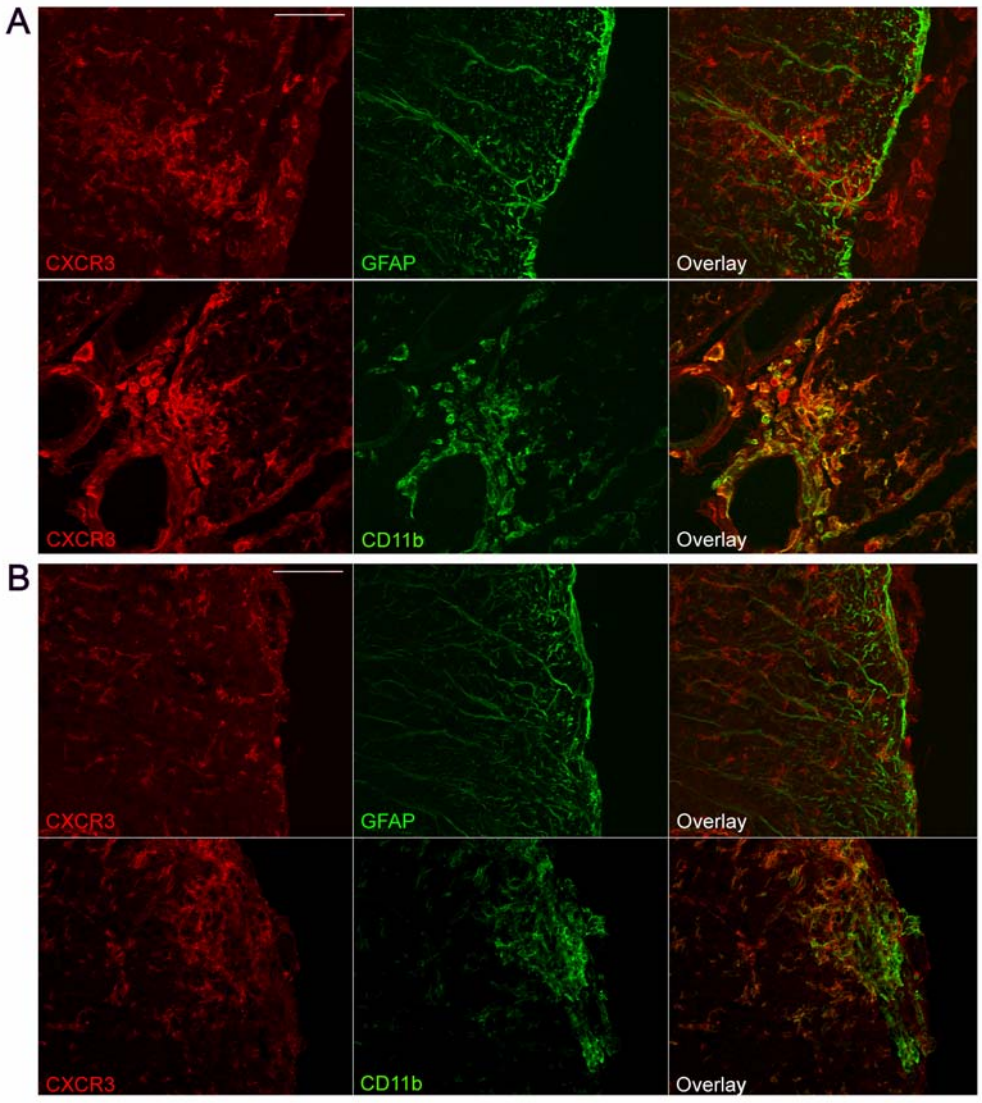


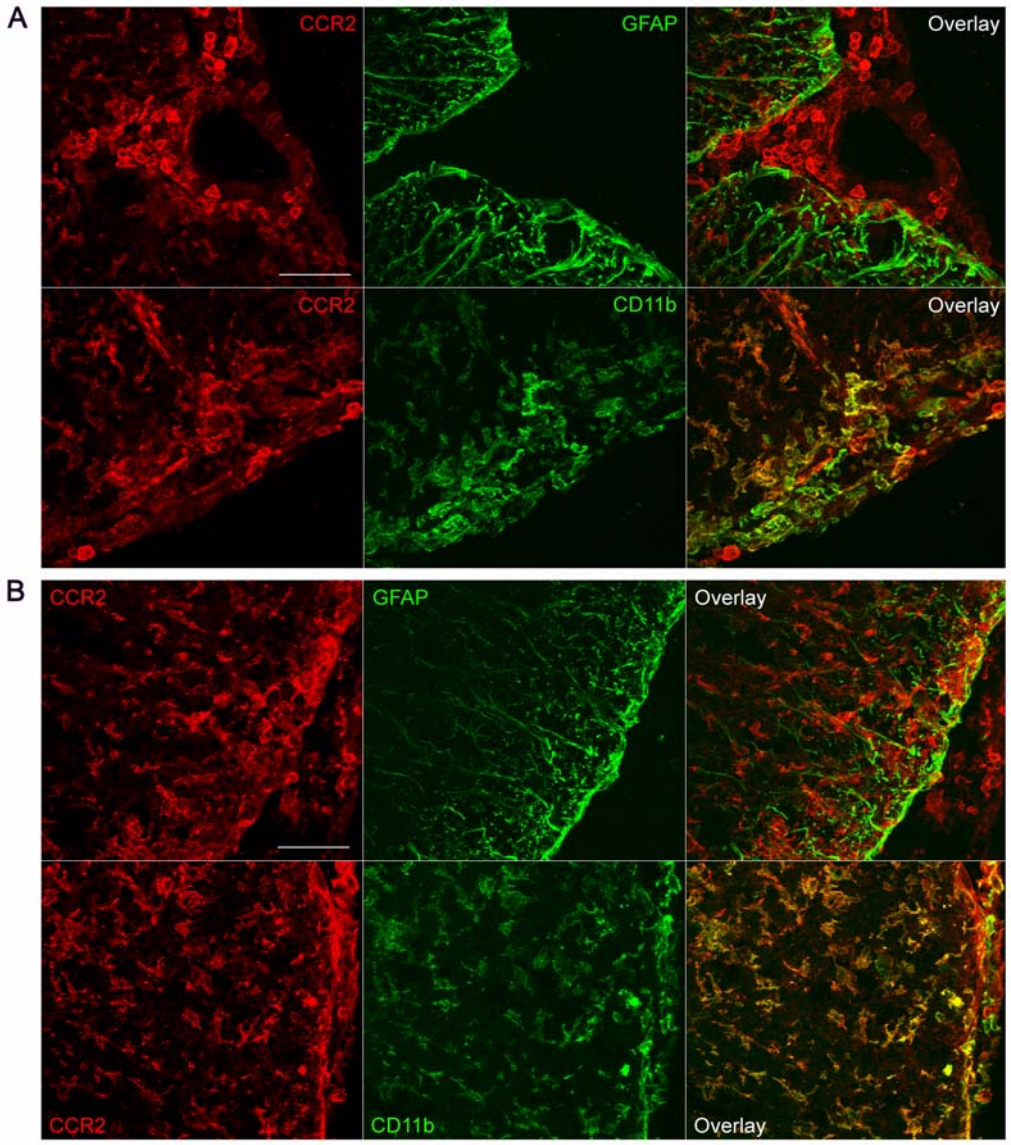
Supplementary Figure 1. Leukocyte infiltration in WT and GFAP-IκBα-dn cerebellum following EAE.
(A) Immunofluorescent labeling of WT and GFAP-IκBα-dn tissue sections at 20 dpi (acute disease). (B) Immunofluorescent labeling of WT and GFAP-IκBα-dn tissue sections at 40 dpi (chronic disease). Red: Aquaporin-4 (localized to astrocyte endfeet in contact with the vascular endothelium). Green: pan-leukocyte marker CD45. Blue: astrocyte-specific marker GFAP. Scale bar: 100 μm.



Supplementary Figure 2. Schematic of the differentially expressed genes of the chemokine-chemokine receptor pathway at 17 dpi. Each colored rectangle is divided into 4 areas representing, from left to right, gene expression at naive, 10, 17, and 80 dpi time points. gene expression is predominantly downregulated in GFAP-IκBα-dn mice compared to WT.



Supplementary Figure 3. CXCR3 protein localization in WT and GFAP-IκBα-dn spinal cords following EAE. Immunofluorescent labeling of WT (A) and GFAP-IκBα-dn (B) tissue sections at 20 dpi (acute disease). Red: CXCR3. Green: GFAP or CD11b.Scale bar: 100 μm.



Supplementary Figure 4. CCR2 protein localization in WT and GFAP-IκBα-dn spinal cords following EAE.
Immunofluorescent labeling of WT (A) and GFAP-IκBα-dn (B) tissue sections at 20 dpi (acute disease).
Red: CCR2. Green: GFAP or CD11b.Scale bar: 100 μm.

Days post-induction	Total number of differentially expressed genes	Genes downregulated in GFAP-IκBα-dn mice	Genes upregulated in GFAP-IκBα-dn mice
naive	13	7 (53.8%)	6 (46.2%)
10	89	79 (88.8%)	10 (11.2%)
17	1545	1359 (88.0%)	186 (12.0%)
80	380	349 (91.8%)	31 (8.2%)

Supplementary Table 1. Microarray data summary. Number of differentially expressed genes between WT and GFAP-IκBα-dn mice at various time points following EAE. Results are derived from the analysis of 3 biological replicates/time point.

Pathway	Genes	*P* value
GFAP-IκBα-dn vs WT, 17 dpi		
Antigen processing and presentation	37	1.03e-27
Cell adhesion molecules	38	5.79e-19
Type I diabetes mellitus	26	9.02e-18
Cytokine-cytokine receptor interaction	41	1.10e-13
Toll-like receptor signaling pathway	20	2.18e-8
Natural killer-mediated cytotoxicity	21	8.44e-8
Apoptosis	12	7.19e-7
Leukocyte transendothelial migration	20	1.04e-6
T cell receptor signaling pathway	18	3.24e-6
B cell receptor signaling pathway	15	8.33e-6
Inflammatory response pathway	10	2.14e-5
Fc epsilon RI signaling pathway	14	4.27e-4
Hematopoietic cell lineage	14	3.15e-3
Glutathione metabolism	8	1.61e-2
GFAP-IκBα-dn vs WT, 80 dpi		
Antigen processing and presentation	11	1.18e-7
Cell adhesion molecules	10	3.47e-4
Complement and coagulation molecules	7	5.81e-4
Type I diabetes mellitus	7	7.12e-4
Leukocyte transendothelial migration	8	2.22e-3
ECM receptor interaction	7	2.30e-3
Focal adhesion	10	3.82e-3
B cell receptor signaling pathway	6	1.13e-2
Cell communication	7	1.57e-2
Aminosugars metabolism	4	1.70e-2
Glycan structures degradation	4	2.00e-2
Fc epsilon RI signaling pathway	6	2.69e-2
Toll-like receptor signaling pathway	6	4.43e-2

Supplementary Table 2. Pathway analysis of GFAP-IκBα-dn versus WT mice at 17 and 80 dpi. The pathways that are significantly changed between transgenic and WT mice are listed. Analysis was performed with the software GeneSpring 7.3 (Agilent Technologies Inc.).

Gene	Primer Sequence	Product Length	Optimal A_{temp}
ICAM-1	F: 5' acgagacggactgcttggggaact 3' R: 5' ccgtctgcaggtcatcttaggag 3'	104 bp	56.6°C
VCAM-1	F: 5' atacagcttacagtctttccatct 3' R: 5' gtctcctgtctttgctttcttctt 3'	123 bp	50.3°C
Itgβ_5	F: 5' attccccaactgcgtcccctcctt 3' R: 5' gacaccctctgcttcctcactt 3'	99 bp	55.3°C
Itgβ_7	F: 5' cattctgtgcgcataggttttg 3' R: 5' agtcggctggggcatgggtggtg 3'	101 bp	55.3°C
Itgα_x	F: 5' tgccactgtctgccttcata 3' R: 5' agcccgggtctttgtctcct 3'	139 bp	54.8°C
Fibronectin-1	F: 5' ggcagaggggagtggaagtgtgag 3' R: 5' ctgggggtgagtctgcggttggta 3'	111 bp	57.4°C
CCL2	F: 5' ccccactcacctgctgctac 3' R: 5' cctgctgctggtgattctctt 3'	86 bp	52.9°C
CCR2	F: 5' agcctgatcctgcctctacttgtc 3' R: 5' cagccctgtgcctcttcttctc 3'	97 bp	54.0°C
CCL5	F: 5' tgcccacgtcaaggagtatttcta 3' R: 5' tggcggttccttcgagtgacaa 3'	81 bp	53.1°C
CXCL9	F: 5' agtccgctgttcttttcctttg 3' R: 5' gtgcctcggctggtgctgat 3'	112 bp	54.9°C
CXCL10	F: 5' gccgtcattttctgcctcatcct 3' R: 5' ctcattctcactggcccgtcatc 3'	113 bp	57.2°C
CXCR3	F: 5' ctcctcttcttgctggggctgcta 3' R: 5' gaaggtgtccgtgctgctca 3'	90 bp	56.7°C
IFNγ	F: 5' aggaactggcaaaaggatggtgac 3' R: 5' tgacgcttatgttgttgctgatgg 3'	118 bp	53.1°C
TNFα	F: 5' aggcactcccccaaaagatg 3' R: 5' tcaccccgaagttcagtagacaga 3'	123 bp	56.6°C
IL1β	F: 5' cttcaaatctcacagcagcacatc 3' R: 5' ccacgggaaagacacaggtag 3'	102 bp	53.4°C
IL6	F: 5' aaccacggccttccctacttca 3' R: 5' tcatttccacgatttcccagag 3'	134 bp	54.1°C
LIF	F: 5' gtgcgcctaacatgacagacttcc 3' R: 5' gaccatccgatacagctccaccaa 3'	83 bp	54.2°C
IL12Rβ1	F: 5' ctgcgcagccgagtgatgta 3' R: 5' gctaaagcgctggggatgac 3'	87 bp	56.9°C
Neurofilament-1	F: 5' gagtggttccgagtgaggttgg 3' R: 5' ggccgagcgcatagcatctgtgtt 3'	72 bp	54.4°C
SNAP25	F: 5' gcaataatcaggatggagtagtgg 3' R: 5' cattttcccgggcatcgtttgtta 3'	117 bp	55.5°C
Tau	F: 5' cgcaccccatccctaccaacacc 3' R: 5' cagtctgcaggcggctcttac 3'	106 bp	57.9°C
Synaptotagmin XI	F: 5' gggcctccgtgctggtggtgt 3' R: 5' tggcggggtcttgtgcttcttctc 3'	92 bp	58.3°C
MBP	F: 5' cggggctctggcaaggactcacac 3' R: 5' tggactactgggttttcatctt 3'	101 bp	54.3°C
MOBP	F: 5' gctgcccacccttcaccttcct 3' R: 5' ggcacagcagatccagtcctc 3'	116 bp	55.8°C

Supplementay Table 3. List of primers used for real time PCR amplification