

Additional file 1

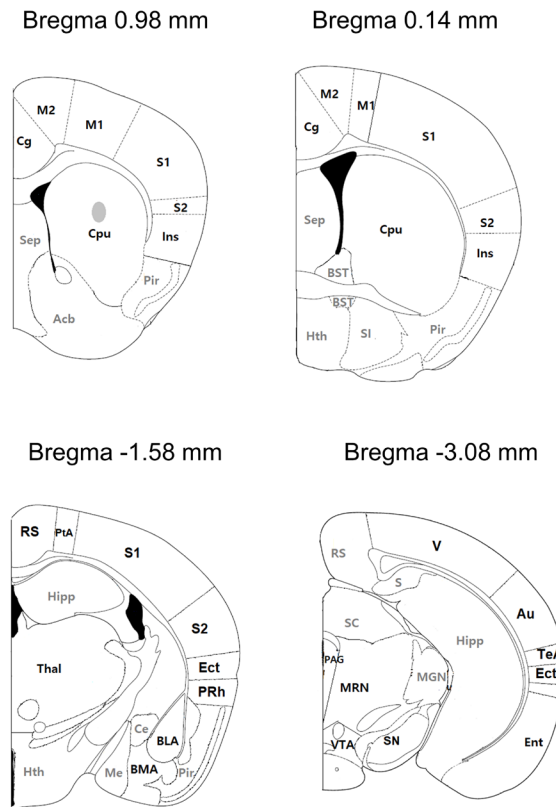


Fig. S1 Schematic images of the regions annotated for pathology measures and used in subsequent analysis. Bolded regions were analyzed. Abbreviations : Cg = cingulate cortex; M1 = motor cortex 1; M2 = motor cortex 2; S1 = somatosensory cortex 1; S2 = somatosensory cortex 2; Ins = insular cortex; Pir = piriform cortex; Cpu = striatum; Sep = septal; Acb = accumbens nucleus; BST = bed nucleus of the stria terminalis; SI = substantia innominata; Hth = Hypothalamus; RS = retrosplenial cortex; PtA = parietal association cortex; Ect = entorhinal cortex; PRh = perirhinal cortex; Ce = central amygdaloid nucleus; Me = medial amygdaloid nucleus; BLA = basolateral amygdaloid nucleus; BMA = basomedial amygdaloid nucleus; Thal = thalamic nuclei; Hipp = hippocampus; V = visual cortex; Au = auditory cortex; TeA = temporal association cortex; Ent = entorhinal cortex; S = subiculum; SC = superior colliculus; MRN = midbrain red nucleus; MGN = medial geniculate nucleus; PAG = periaqueductal gray; VTA = ventral tegment area; SN = substantia nigra

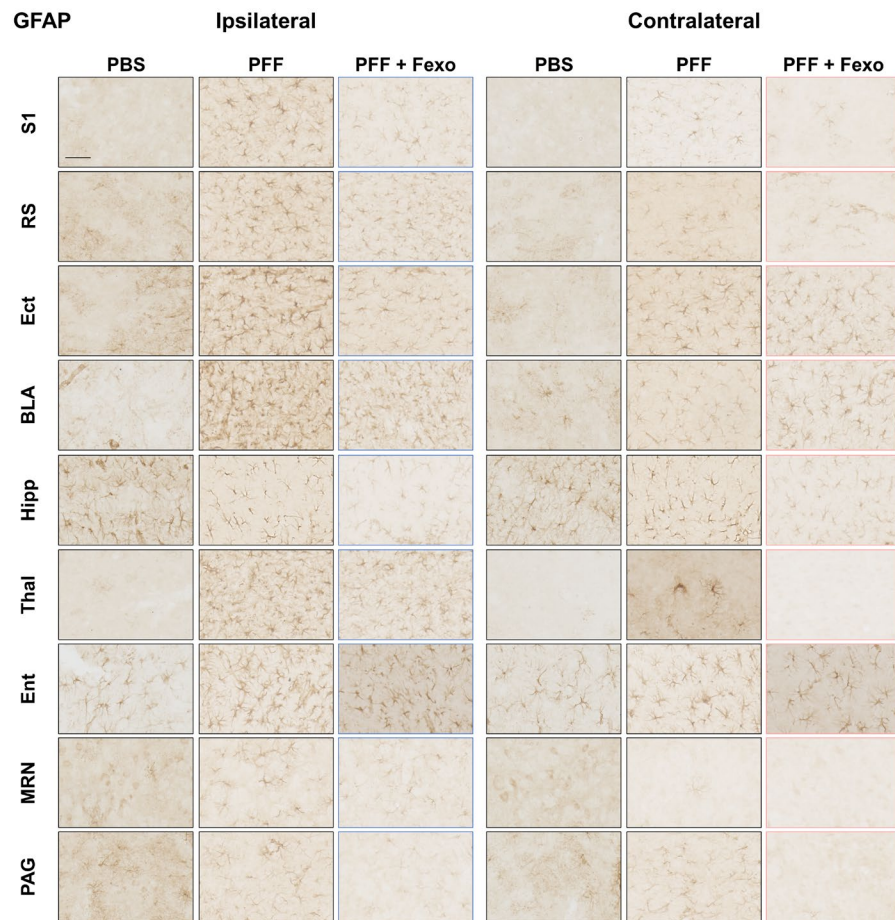


Fig. S2 Fexofenadine mitigates the astrogliosis in PFF-injected mice. IHC of GFAP in the ipsilateral S1, RS, Ect, BLA, Hipp, Thal, Ent, MRN, and PAG regions of PBS, PFF, and PFF + Fexofenadine (Fexo). Scale bar indicates 50 μ m.

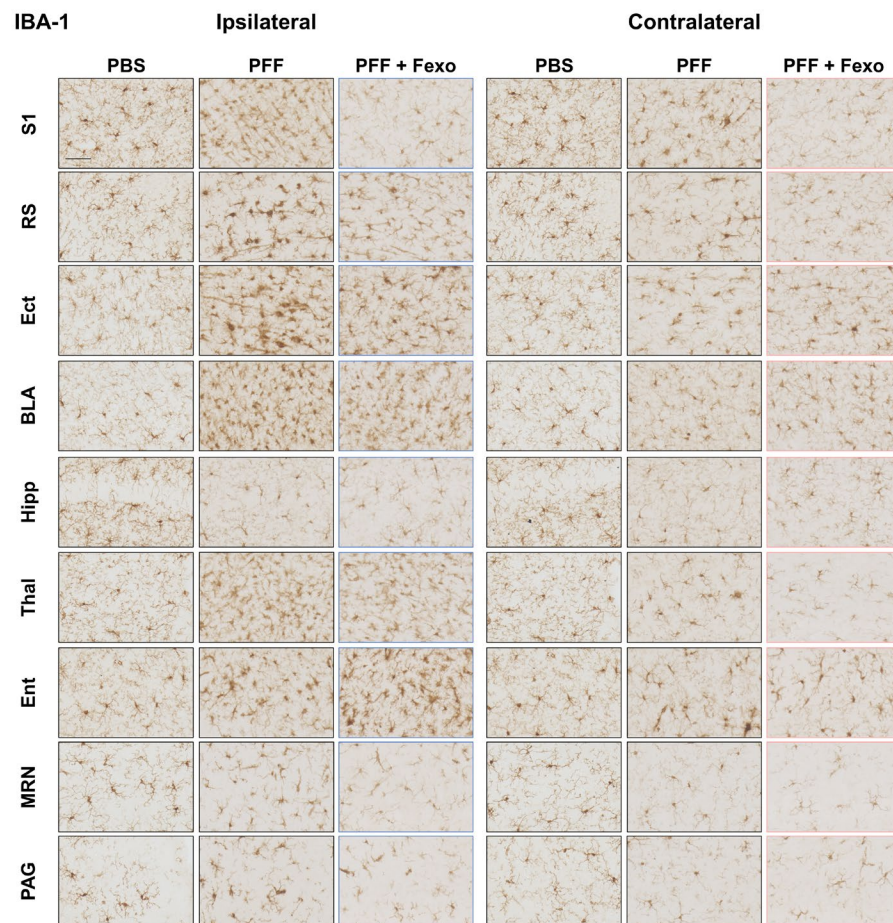
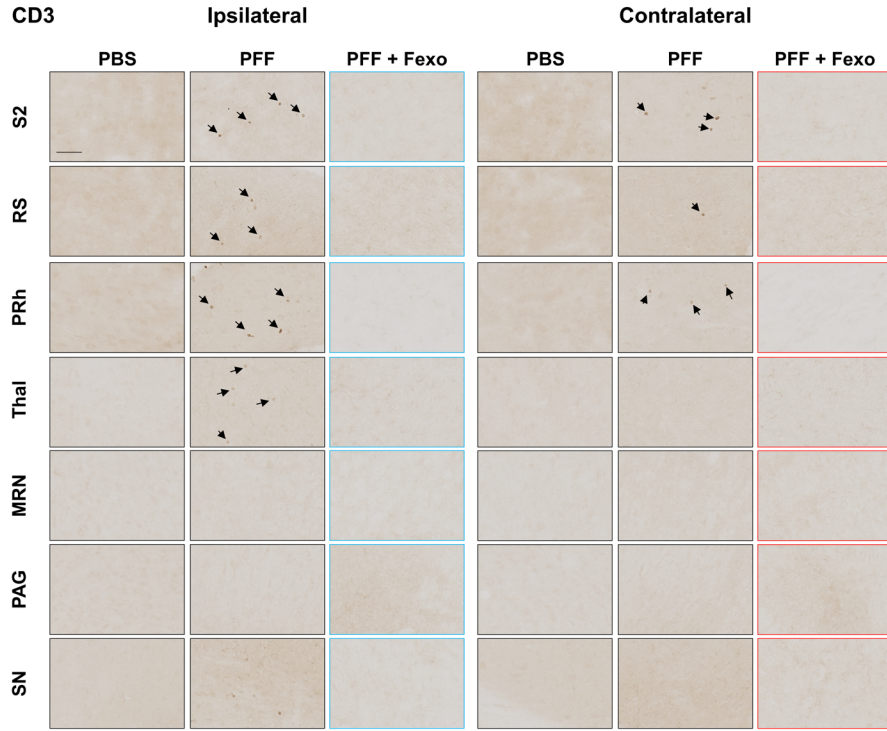


Fig. S3 Fexofenadine mitigates the microgliosis in PFF-injected mice. IHC of IBA-1 in the ipsilateral S1, RS, Ect, BLA, Hipp, Thal, Ent, MRN, and PAG regions of PBS, PFF, and PFF + Fexo. Scale bar indicates 50 μ m

a



b

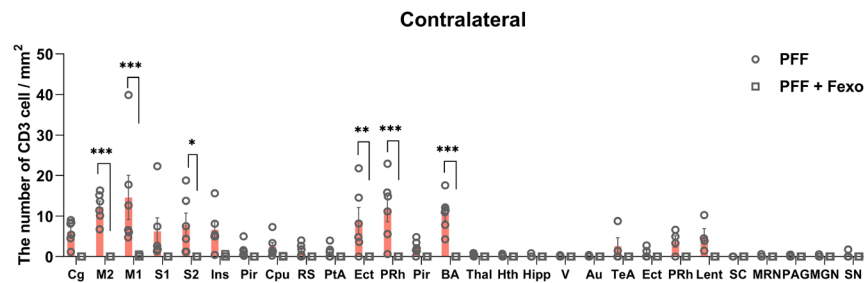


Fig. S4 Fexofenadine alleviates the infiltration of CD3 positive T cells in PFF-injected mice. a IHC of CD3 in the ipsilateral and contralateral S2, RS, PRh, Thal, MRN, PAG, and SN regions of PBS, PFF, and PFF + Fexo. Scale bar indicates 50 μ m. **b** Values are derived from the analysis of data collected from PBS (n = 3), PFF (n = 6), and PFF + Fexo (n = 4) groups. *** $p < 0.001$, ** $p < 0.01$, * $p < 0.05$, two-way ANOVA.

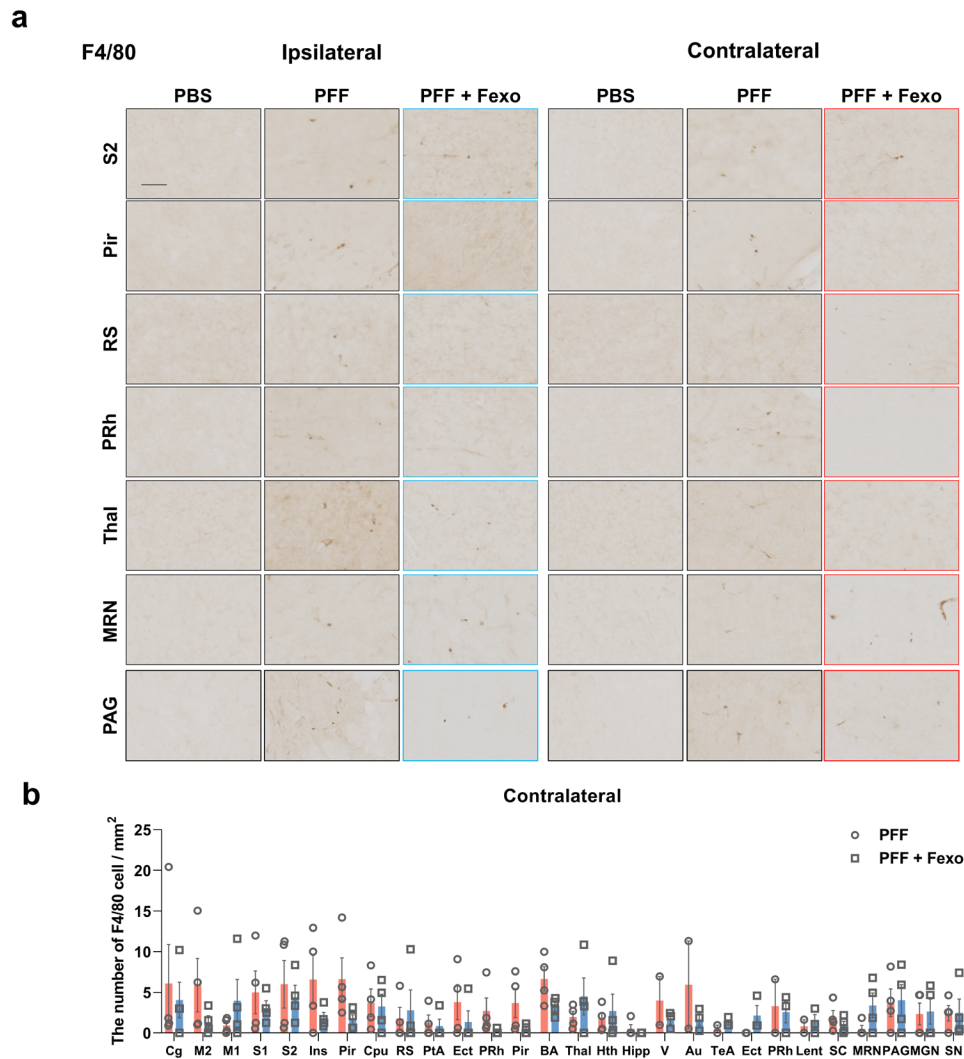


Fig. S5 Fexofenadine does not affect macrophages in PFF-injected mice. a IHC of F4/80 in the ipsilateral and contralateral S2, Pir, RS, PRh, Thal, MRN, and PAG regions of PBS, PFF, and PFF + Fexo. Scale bar indicates 50 μ m. **b** Values are derived from the analysis of data collected from PBS (n = 3), PFF (n = 4), and PFF + Fexo (n = 4) groups, two-way ANOVA.

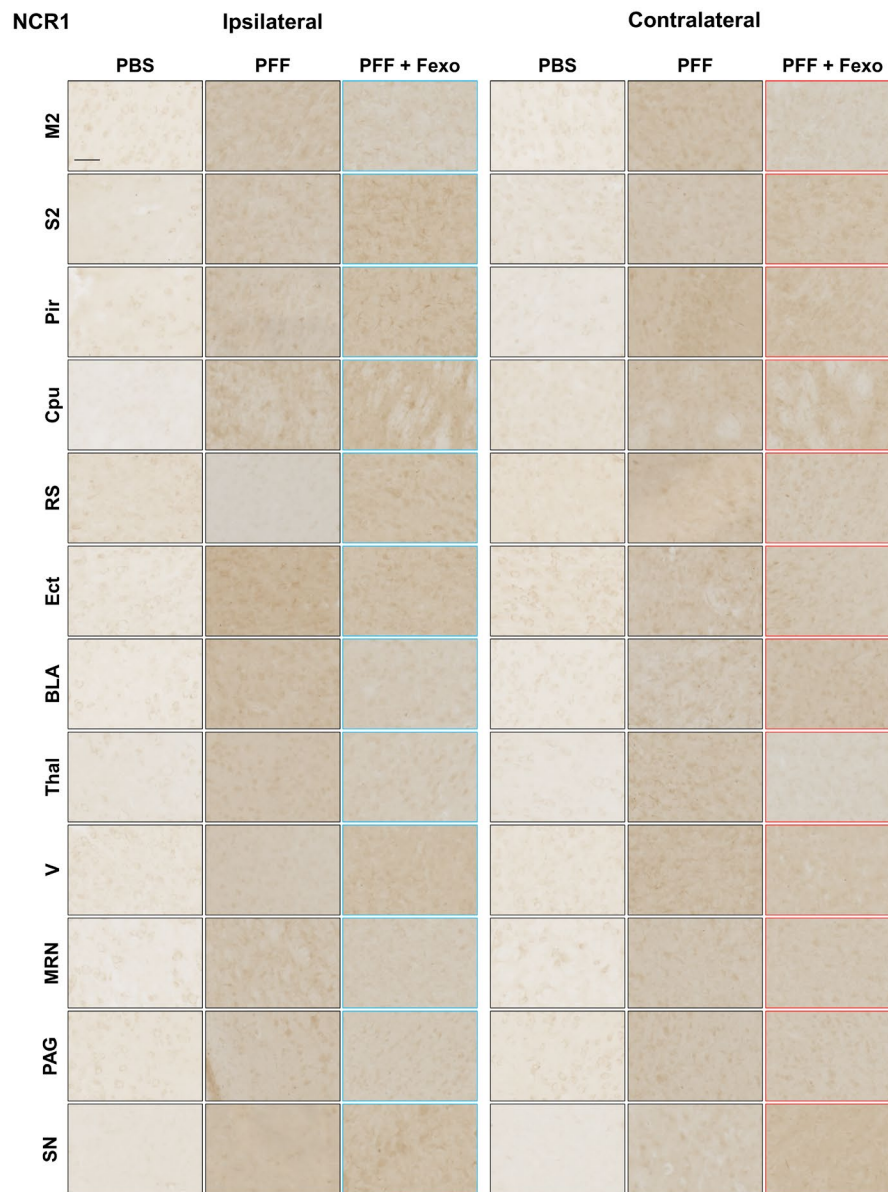


Fig. S6 NK cell does not infiltrate in PFF-injected mice. IHC of NCR1 in the ipsilateral and contralateral M2, S2, Pir, Cpu, RS, Ect, BLA, Thal, V, MRN, PAG, and SN regions of PBS (n = 3), PFF (n = 4), and PFF + Fexo (n = 4). Scale bar indicates 50 μ m.

Table. S1 Real-time PCR Primers.

Gene	Forward Primer	Reverse Primer
CD3	5'-TGGAGAAGCAAAGAGACTGACA-3'	5'-GCCATCCACTTGTACCAAATTC-3'
F4/80	5'-TTTCCTCGCCTGCTTCTTC-3'	5'-CCCCGTCTCTGTATTCAACC-3'
NCR1	5'-GAGCCAGAGGATCAAACTGAAA-3'	5'-GGTAACATTCTCCCCCAAGGT-3'
GAPDH	5'-TGCACCACCAACTGCTTAG-3'	5'-GGATGCAGGGATGATGTTC-3'
