

906 **Supplementary Figures**

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908 **Supplementary Figure S1.** List of qPCR primers.

910 **Supplementary Figure S2. a** Microglial cell tracing length was quantified and total branch length
911 was normalized to the average summed branch length within each mouse. Total summed branch
912 length was reduced by approximately 10% (Mean saline = 0.9941, mean BzATP = 0.8930).
913 *p<0.05.

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915 **Supplementary Figure S3. a** Images derived from IBA1-immunostained retinal wholemounts that
916 were evaluated for morphologic or molecular markers of activation and receiving a score of 1, 2,
917 or 3. Scale bar represents 50 μm . **b** Significant correlation between observer scoring and
918 microglial IBA1-soma intensity was found. Each dot represents the mean value among 6 masked,
919 trained observers (n=21 images, 6 retinae).

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921 **Supplementary Figure S4.** Videos demonstrating microglial retraction with exposure to BzATP.
922 15 minute videos were recorded at 15 frames per section, with experimental solution added at t
923 = 3 min. **a** Addition of fresh Mg^{2+} -free solution added at 3 minutes led to little or no morphological
924 changes. **b** Addition of 250 μM BzATP at 3 minutes resulted in rapid retraction of microglial
925 extensions and rounding of cells. **c** with preexposure to 10 μM A839977, the addition of 10 μM
926 A839977 + 250 μM BzATP at 3 minutes revealed little reduction in microglia processes.

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928 **Supplementary Figure S5. a** RGCs and **b** microglia cell numbers were counted per image and
929 averaged within superior inferior, nasal, or temporal regions. There was a significant difference
930 in distribution of RGCs in peripheral retinal areas, where as RGC populations in the central and

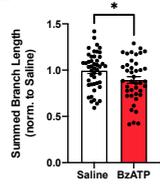
931 middle areas demonstrated homogeneity (n = 12 areas, 3 mice, 2-Way ANOVA with Repeated
932 Measures). ** p<0.01, ***p<0.001.

Supplementary figure 1: List of primers used for qPCR

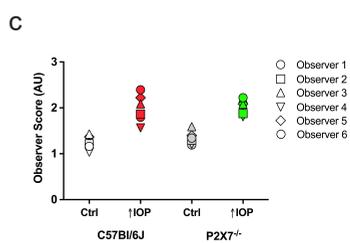
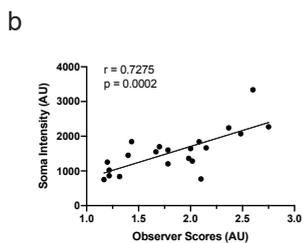
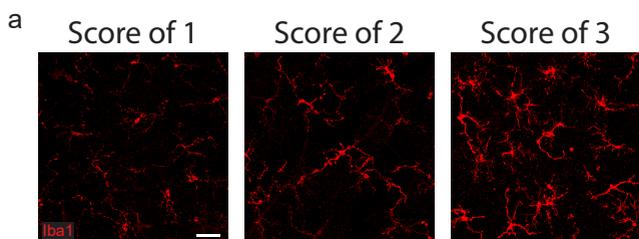
Gene Name	GenBank accession	Forward Primer (5'-3')	Reverse Primer (3'-5')	Size (bp)
<i>Nos2</i>	NM_010927.4	CCCTTCAATGGTTGGTACATGG	ACATTGATCTCCGTGACAGCC	158
<i>Tnfa</i>	NM_013693.3	AAATGGCCTCCCTCTCATCAG	GTCACTCGAATTTTGAGAAGATGATC	73
<i>Arg1</i>	NM_007482.3	ACAAGACAGGGCTCCTTTTCAG	GGCTTATGGTTACCCTCCCG	148
<i>Chil3</i> (cells)	NM_009892.3	AGAAGGGAGTTTCAAACCTGGT	GTCTTGCTCATGTGTGTAAGTGA	109
<i>Chil3</i> (tissue)	NM_009892.3	GAAGGAGCCACTGAGGTCTG	GAGCCACTGAGCCTTCAAC	114
<i>Lcn2</i>	NM_008491.1	GGAACGTTTCACCCGCTTTG	TGAACCATTGGGTCTCTGCG	140
<i>GAPDH</i>	NM_017008	TCACCACCATGGAGAAGGC	GCTAAGCAGTTGGTGGTGCA	169

Supplemental Figure 2

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Supplementary Figure 3.



Supplementary Figure 5.

