**Supplementary Information Fourgeaud *et al*.**

**Supplementary Figure 1.** Source data (gels). Original source images for western blots of Fig. 4 of the main text and Extended Data Fig. 8. Boxes delimit cropped areas used in the figures.

**Supplementary Video 1.** Microglia distribution in the SVZ and brain. This sequence moves through a 1 mm3 block of fixed tissue of a *Cx3cr1*GFP/+ mouse brain, cleared using the CLARITY protocol (see Methods), and visualized for GFP (green), which is expressed by microglia. The sequence begins in the lateral ventricle (the black region at the center and left of the image) and extends into the SVZ as the movie progresses. Note the regular tiling of the brain/SVZ parenchyma by evenly spaced GFP+ microglia. The movie was generated by compiling successive confocal planes through the CLARITY-cleared tissue block.

**Supplementary Video 2.** Process extension by wild-type microglia. This sequence is a tracking series from a live head-restrained mouse, using two-photon imaging of GFP+ microglial processes (white) of *Cx3cr1*GFP/+ visual cortex, with the movement of 13 individual processes highlighted in colors over time (total movie is ~67 minutes).

**Supplementary Video 3.** Process extension by *Axl-/-Mertk-/-* microglia. This sequence is a tracking series from a live head-restrained mouse, using a live two-photon imaging of GFP+ microglial processes (white) of *Cx3cr1*GFP/+*Axl-/-Mertk-/-* visual cortex, with the movement of 13 individual processes highlighted in colors over time (total movie is ~63 minutes).

**Supplementary Video 4.** Process extension toward lesion by wild-type microglia This sequence is a tracking series from a live head-restrained mouse, using two-photon imaging of GFP+ microglial processes (white) of *Cx3cr1*GFP/+ visual cortex, with the movement of 10 individual processes toward a laser-induced microvascular lesion site (generated at time 0) highlighted in colors over time (total movie ~11 minutes).

**Supplementary Video 5.** Process extension toward lesion by *Axl-/-Mertk-/-* microglia. This sequence is a tracking series from a live head-restrained mouse, using two-photon imaging of GFP+ microglial processes (white) of *Cx3cr1*GFP/+

*Axl-/-Mertk-/-* visual cortex, with the movement of 10 individual processes toward a laser-induced microvascular lesion site (generated at time 0) highlighted in colors over time (total movie is ~12 minutes).

**Supplementary Table 1.** Quantitative PCR primers used in this paper.