

Supplementary information

Granulin 1 Promotes Retinal Regeneration in Zebrafish

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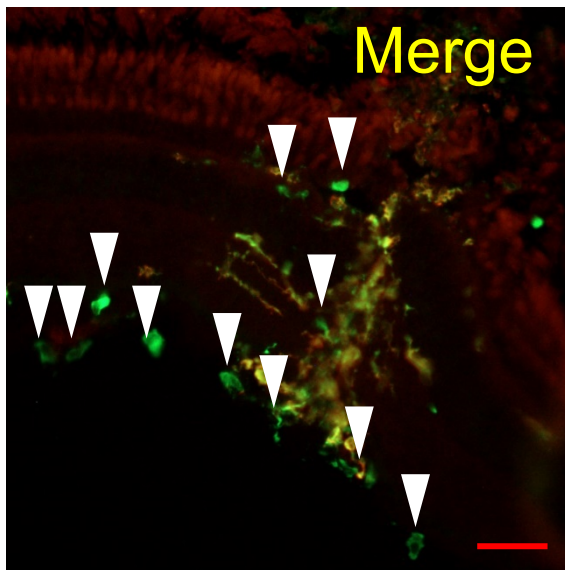
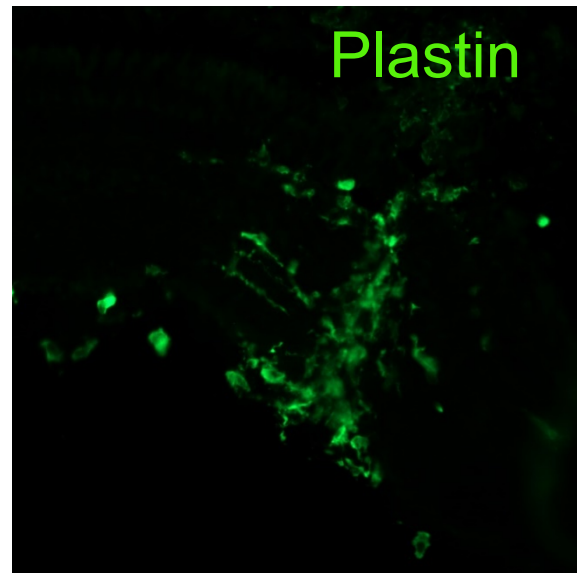
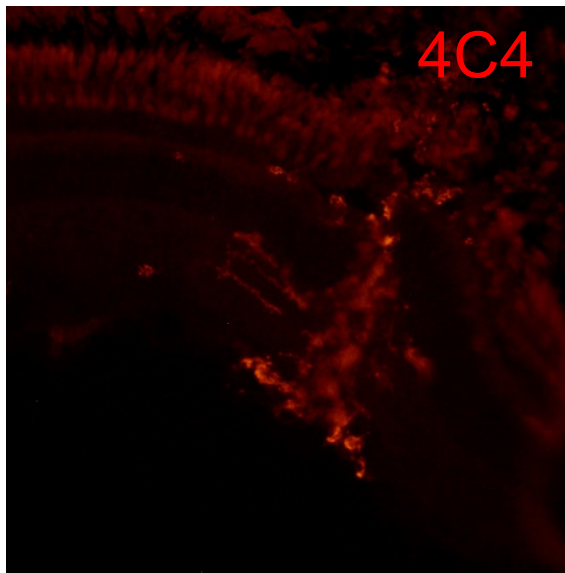
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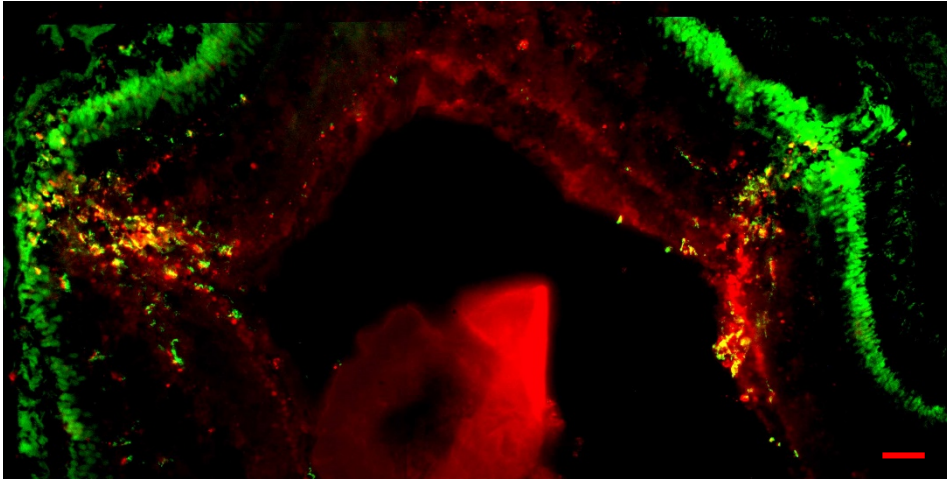
Tel./Fax: +81-58-230-8126; E-mail: hidehara@gifu-pu.ac.jp

Supplementary Figure 1



Supplementary Figure 2

Lissamine/4C4

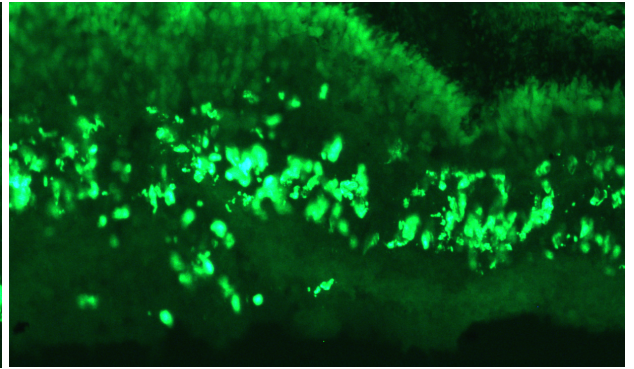
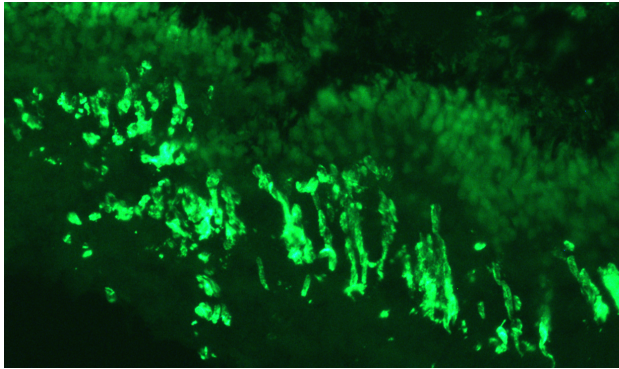


Supplementary Figure 3

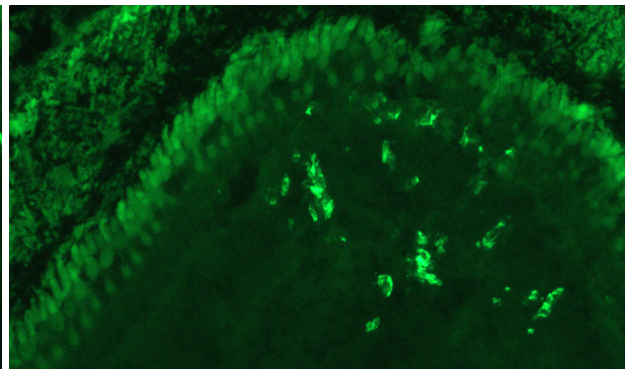
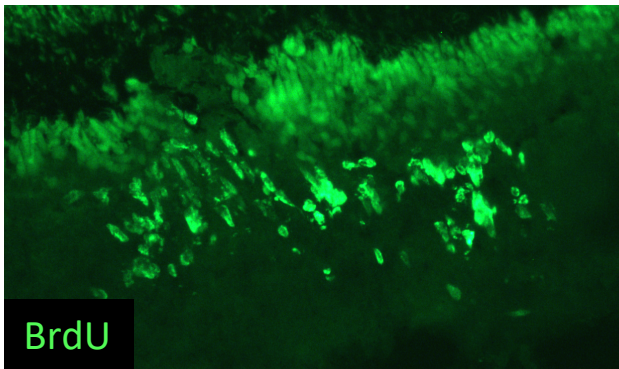
15 h EP

48 h EP

Control



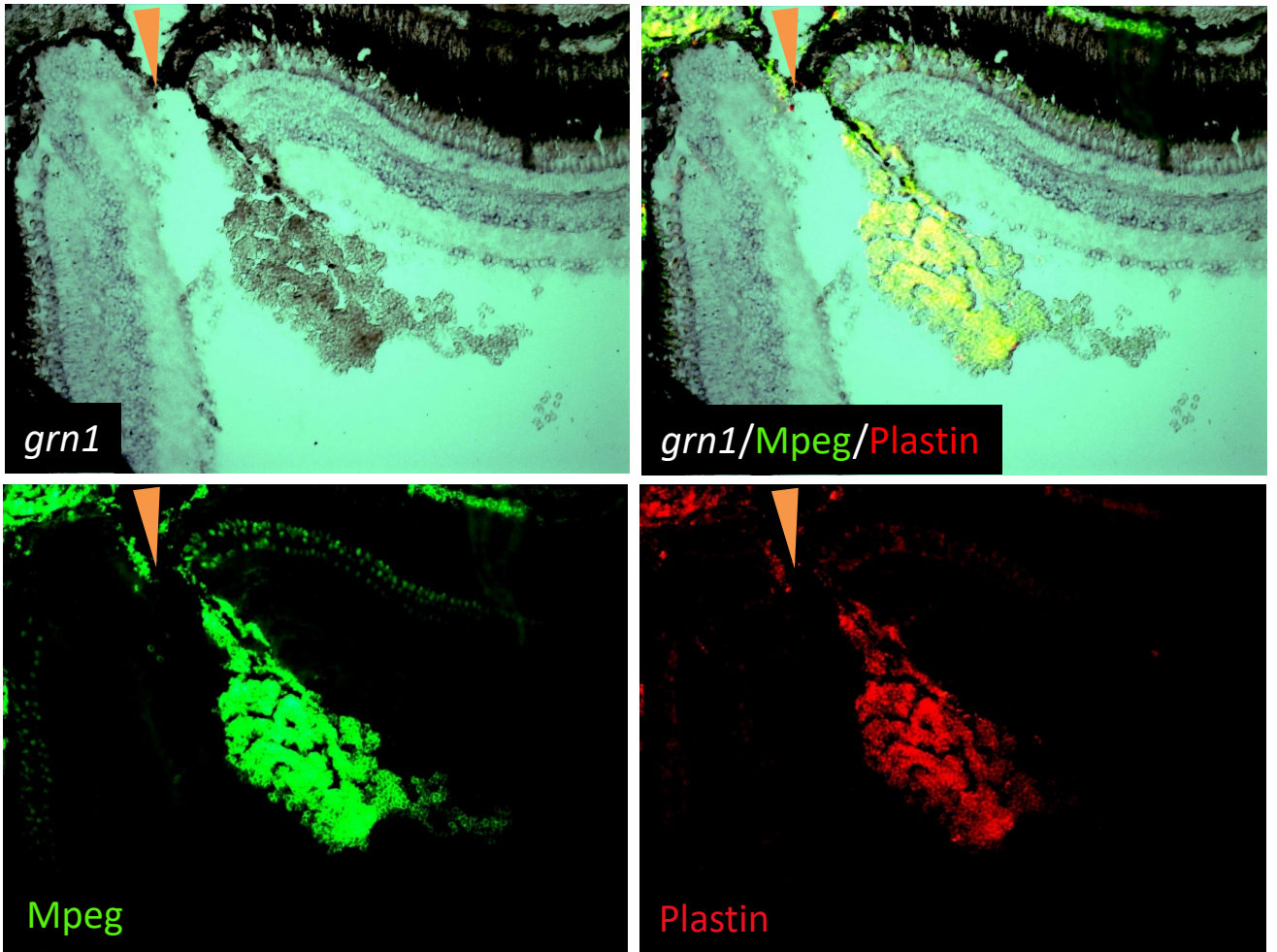
grn1 MO1



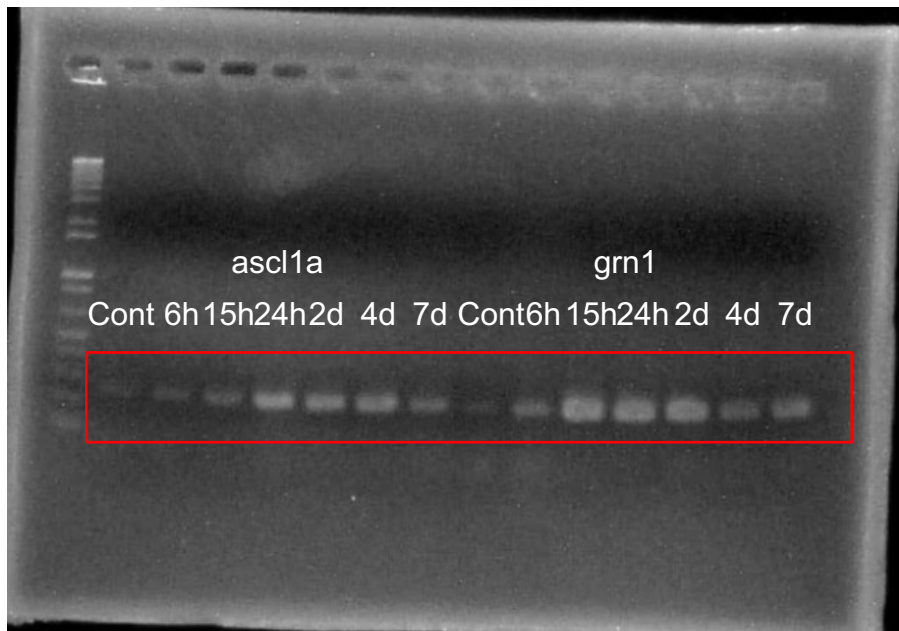
BrdU

Supplementary Figure 4

3 hpi



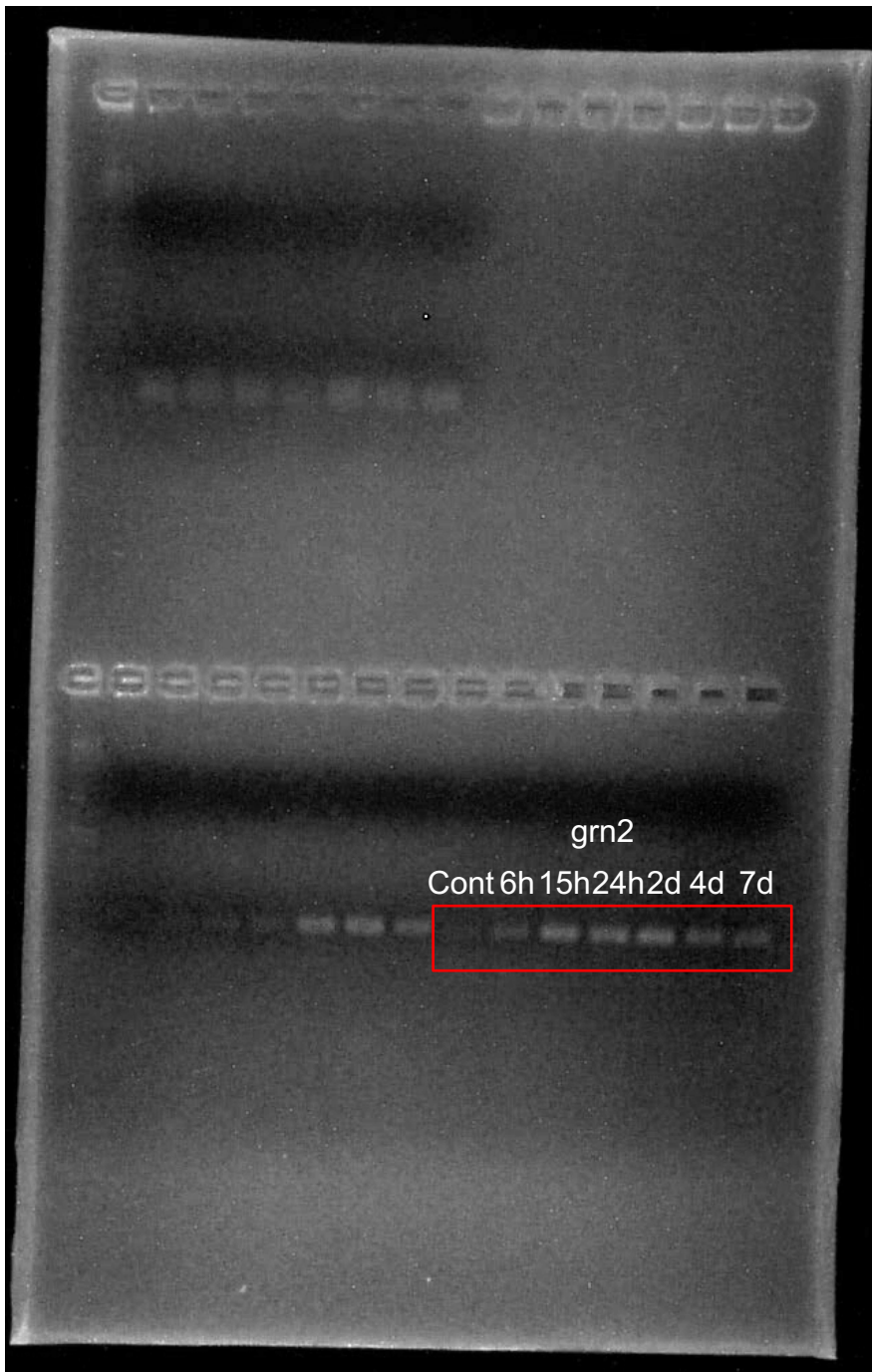
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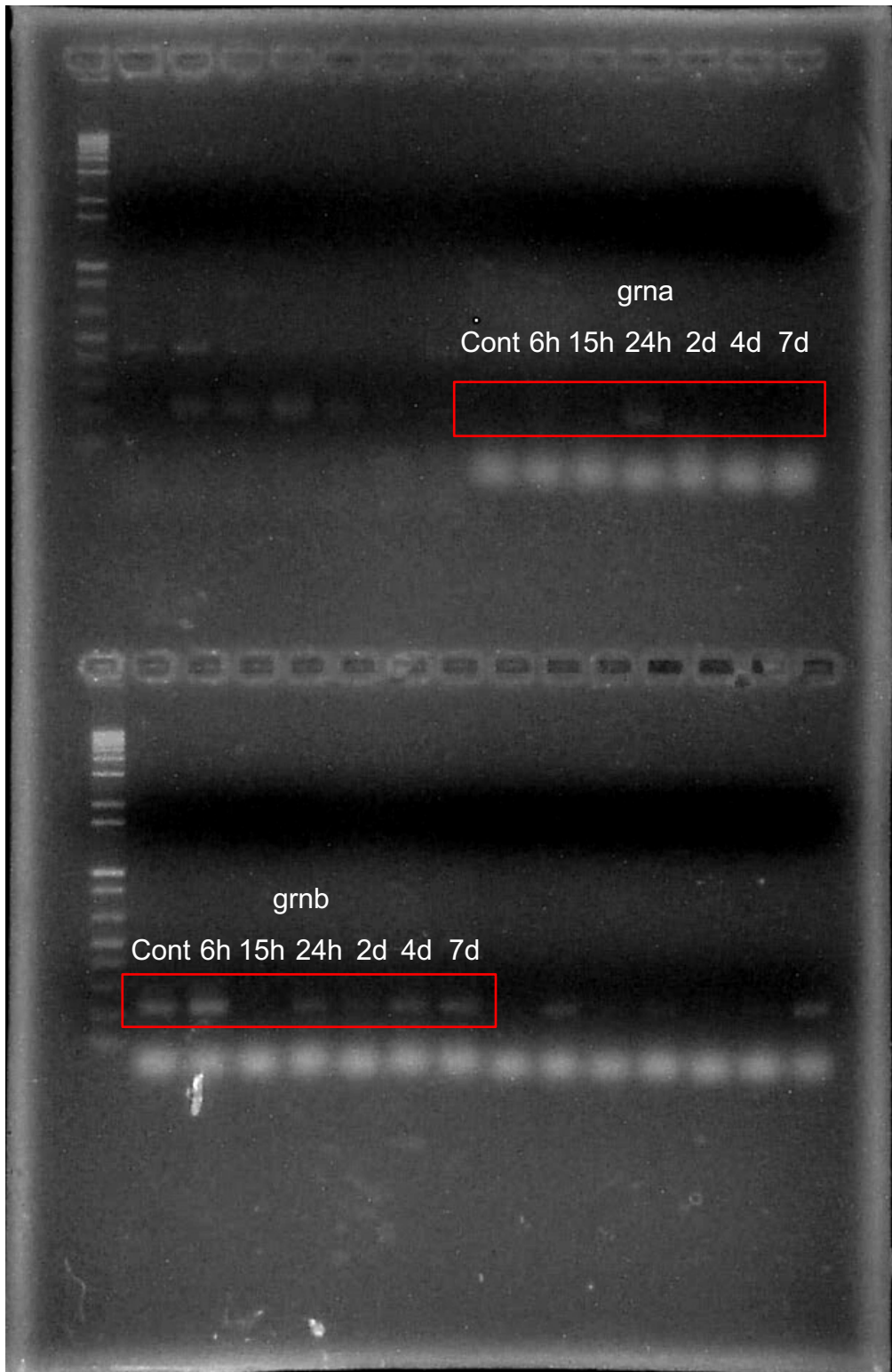
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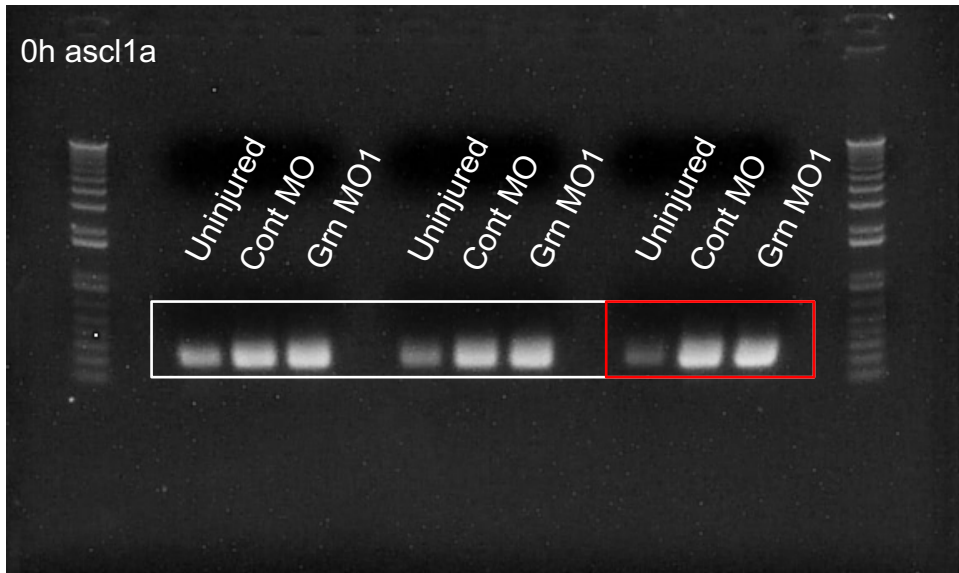
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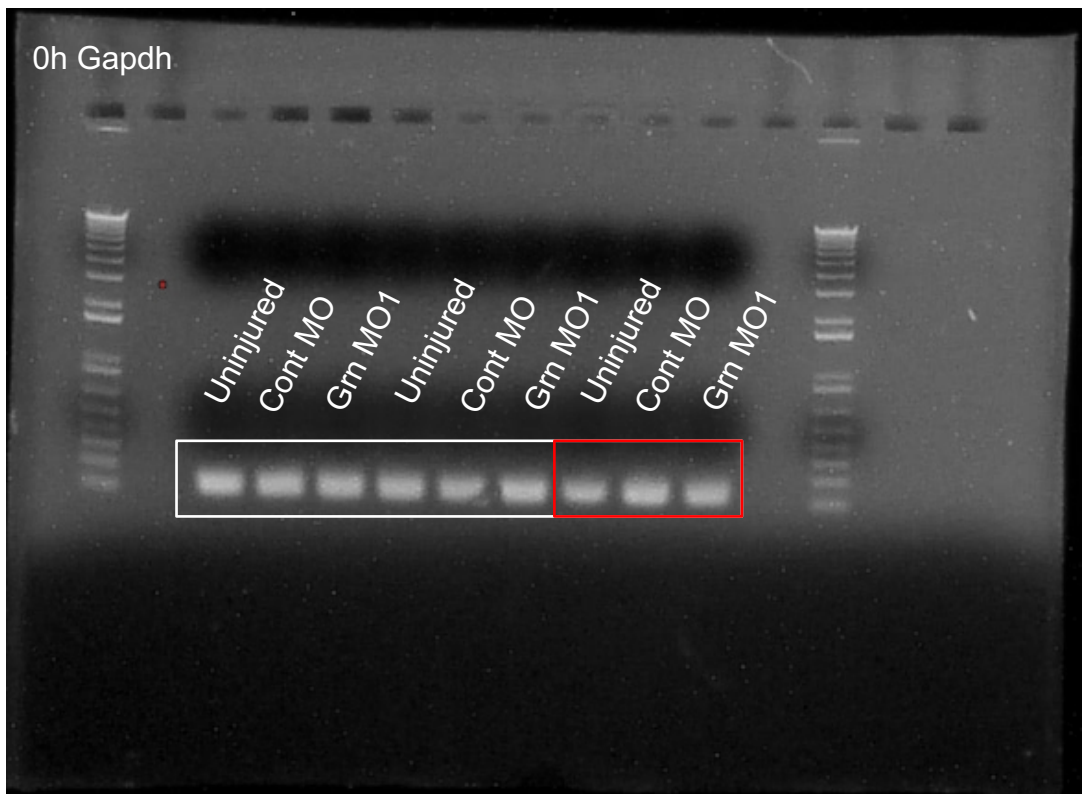
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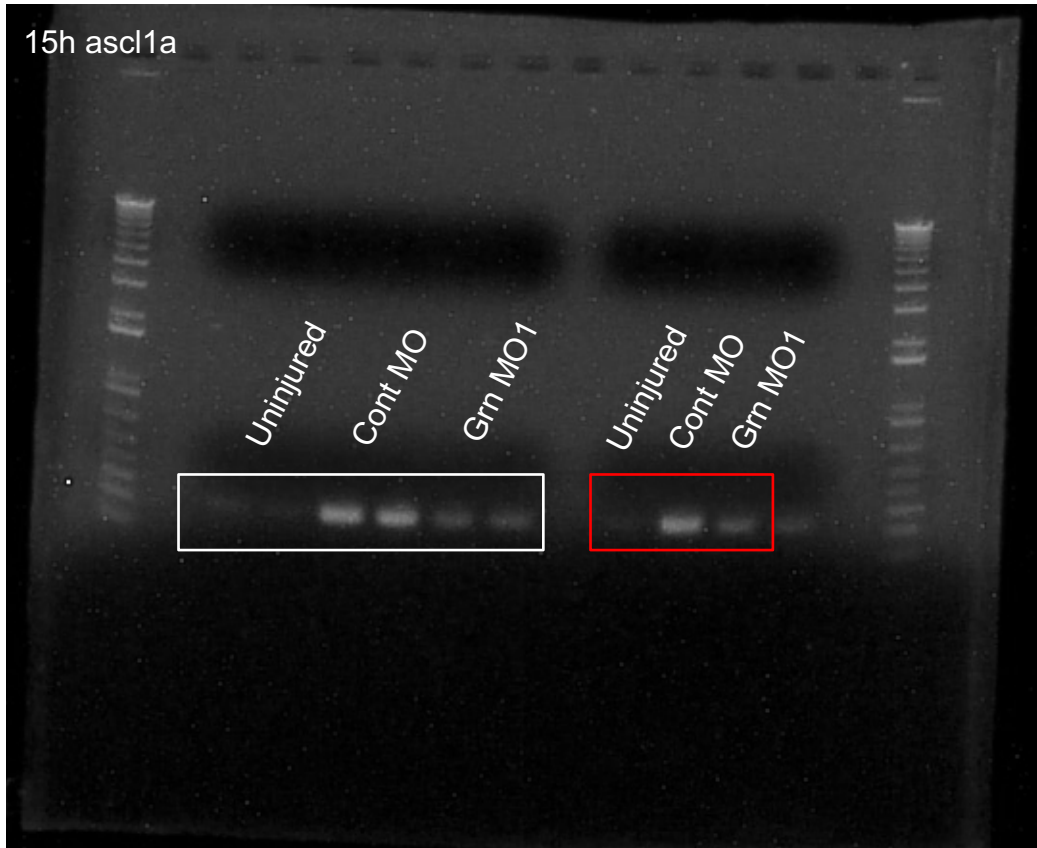
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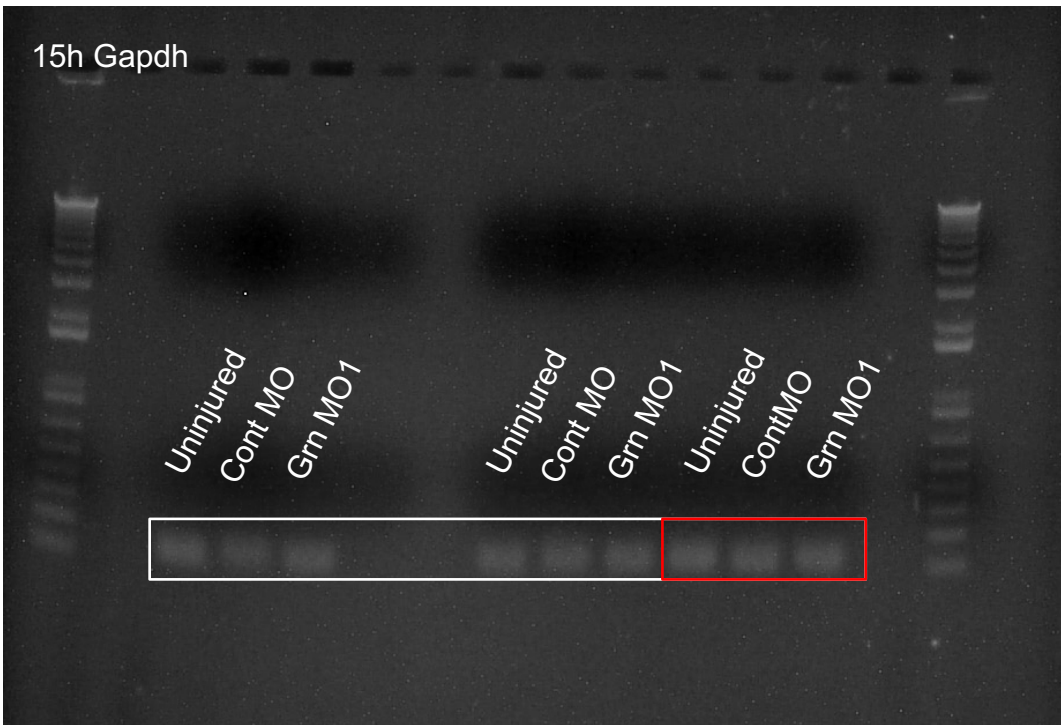
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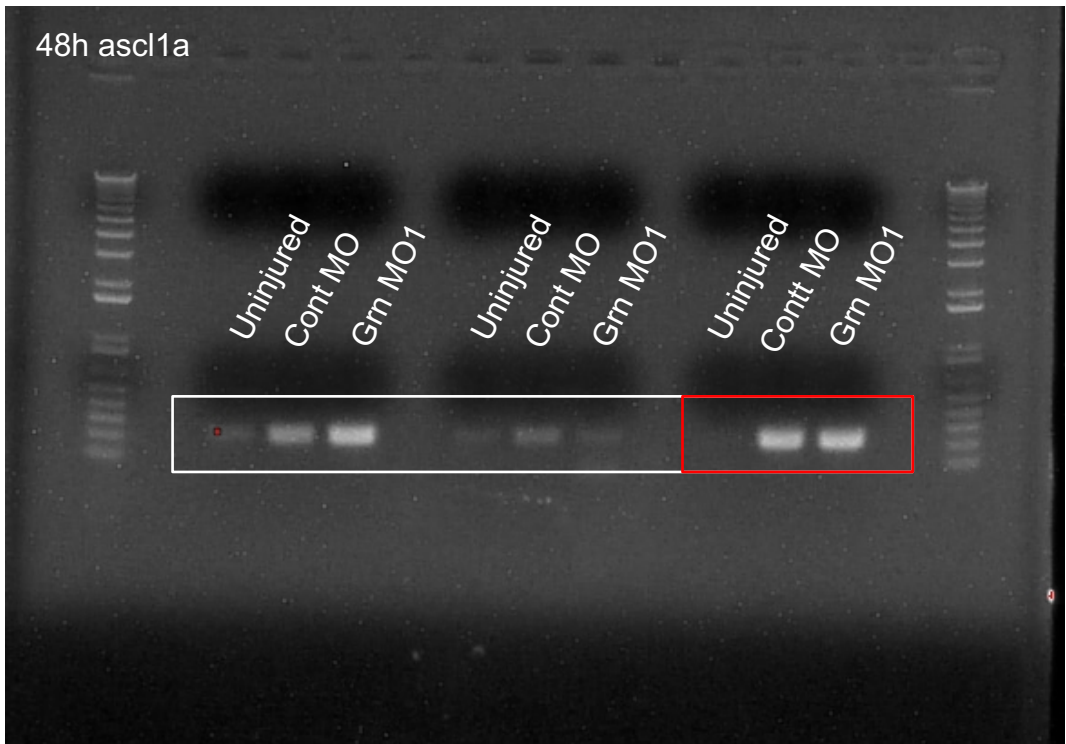
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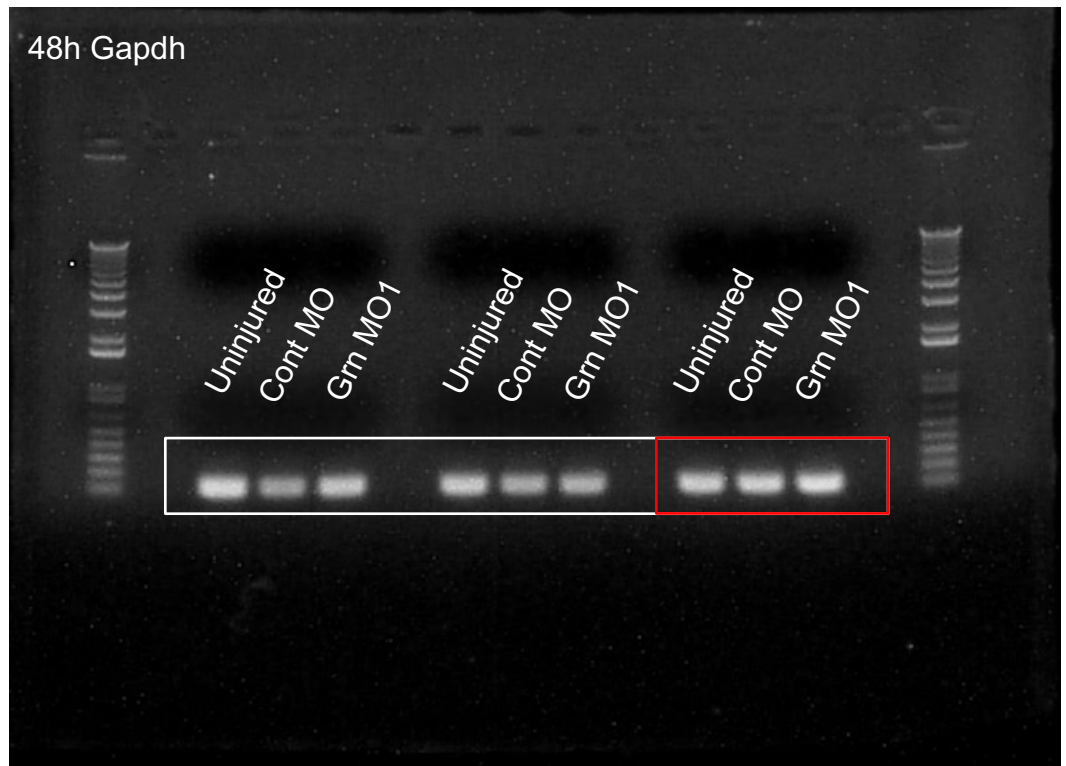
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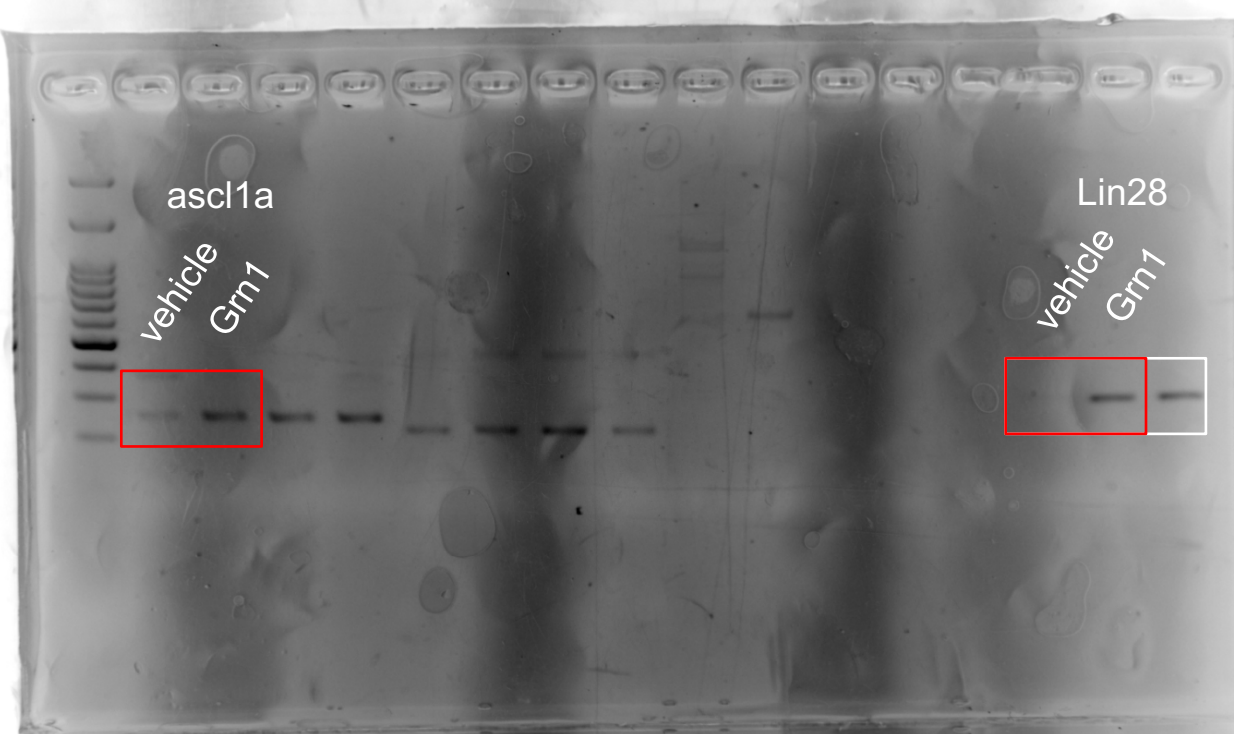
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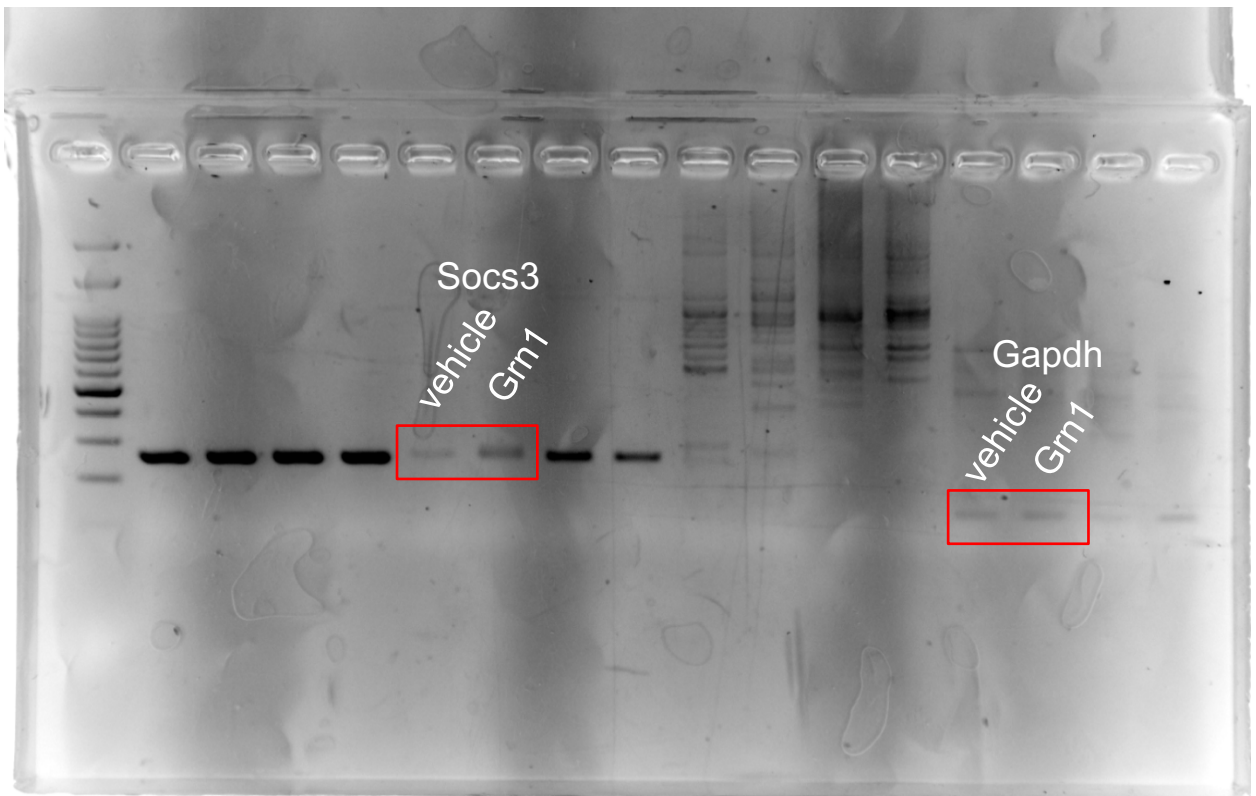
6



1



2



Supplemental Figure legends

Figure S1. 4C4-negative, plastin-positive cells are observed at 24 hours post injury

Anti-4C4 and anti-plastin antibody staining at 24 hours post injury. White arrowheads indicate unmerged plastin positive cells which show neutrophils. Scale bar is 100 μm .

Figure S2. Electroporation of MO into migrating cells

Lissamine-tagged control MO was electroporated at 15 h post injury. The eye was enucleated, fixed, and sectioned. The sections were stained by anti-4C4 antibody. Green shows 4C4-positive infiltrated cells. Red shows MO transduced cells. Merged image indicates MO was transduced into the infiltrated cells. Scale bar is 200 μm .

Figure S3. Representative images of BrdU positive cells by 15 h or 48 h EP groups

Green shows BrdU positive cells.

Figure S4. early expressed *grn1* mRNA is not merged with plastin or mpeg.

Triple staining of *in situ* hybridization of *grn1*, plastin (neutrophil or microglia marker), and mpeg (macrophage or microglia marker) at 3 hours post injury (hpi).

The merged area is punctured retinal tissue.

Figure S5 The full-length blots of results by RT-PCR

Representative blots showing the expression level of *ascl1a*, *grn1*, *grn2*, *grna*, *grnb* and *gapdh*. Red squares in the full-length blots are used for cropped blots in Figure 1.

Figure S6 The full-length blots of results by RT-PCR

Representative blots showing the expression level of *ascl1a* and *gapdh* at different times. White squares are full-length blots and red squares are used for cropped blots in Figure 3.

Figure S7 The full-length blots of results by RT-PCR

Representative blots showing the expression level of *ascl1a*, *lin28*, *socs3* and *gapdh*. White squares are full-length blots and red squares are used for cropped blots in Figure 4.