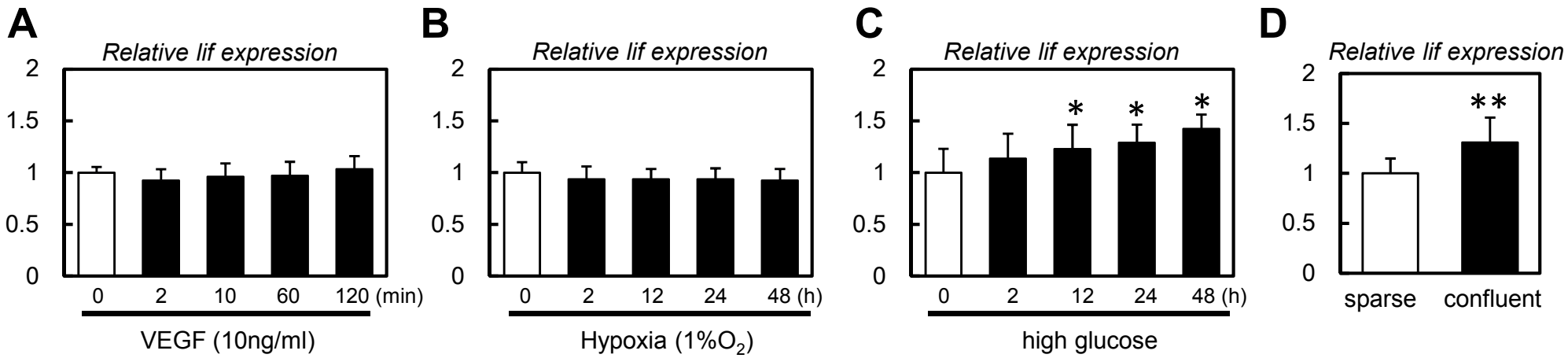

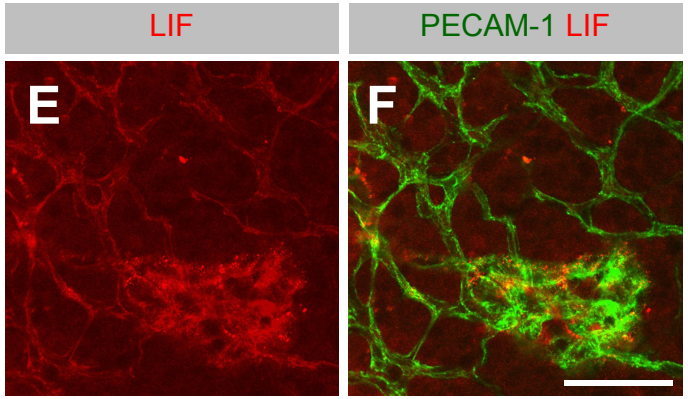

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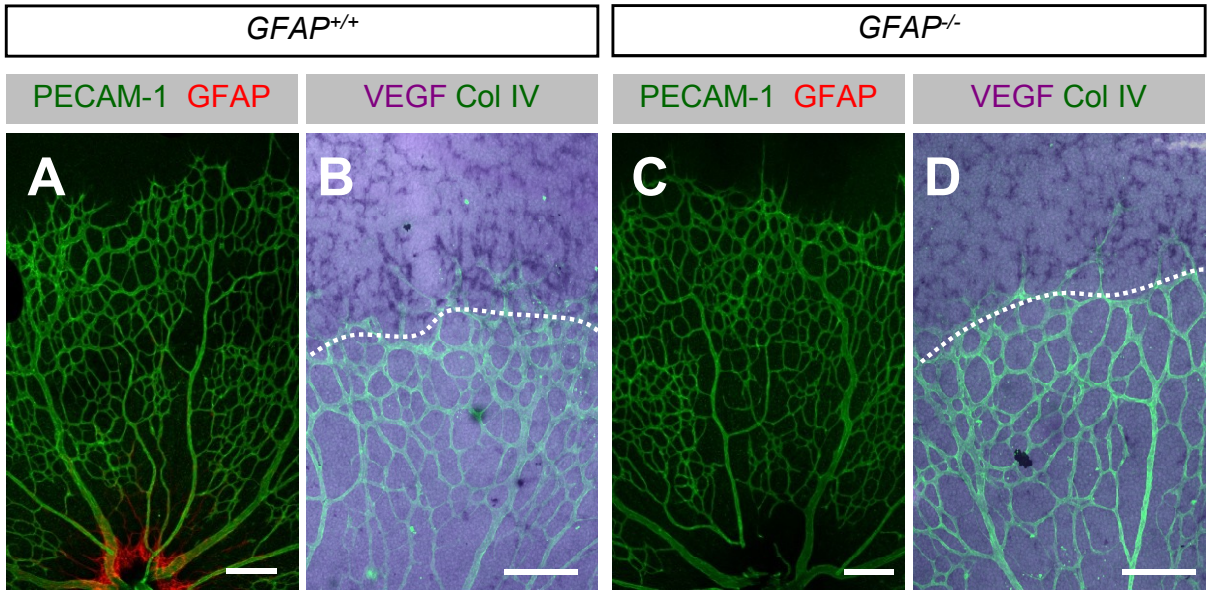
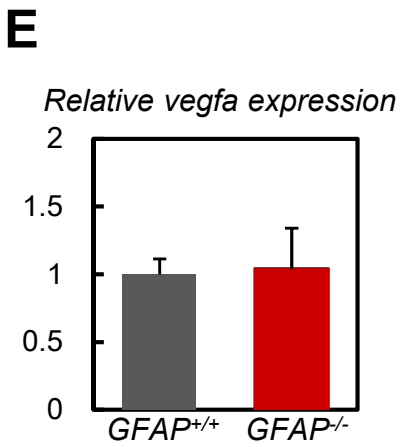
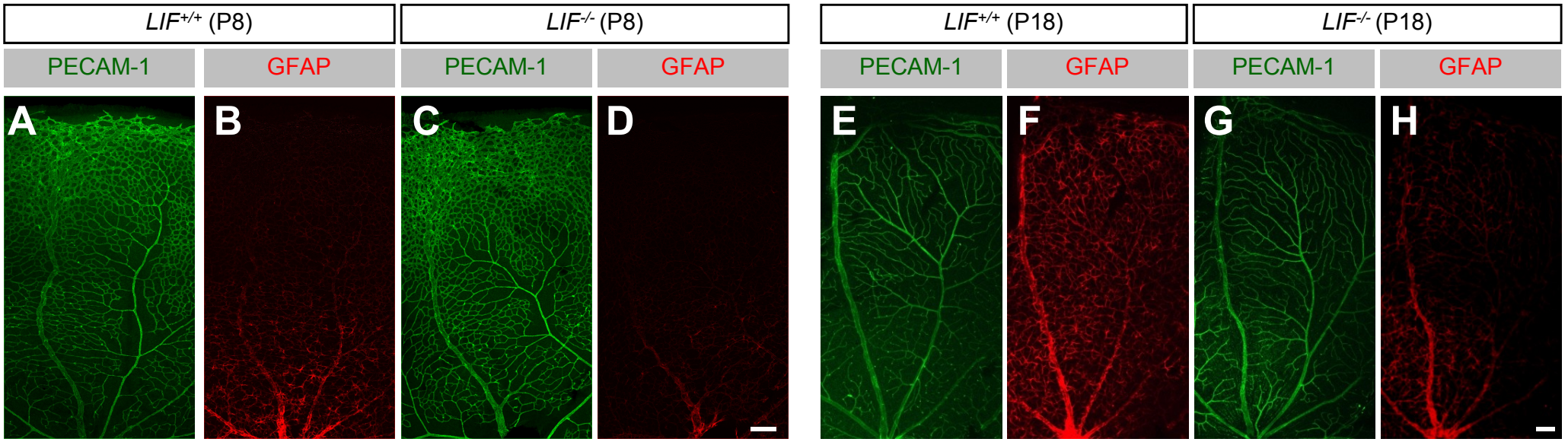
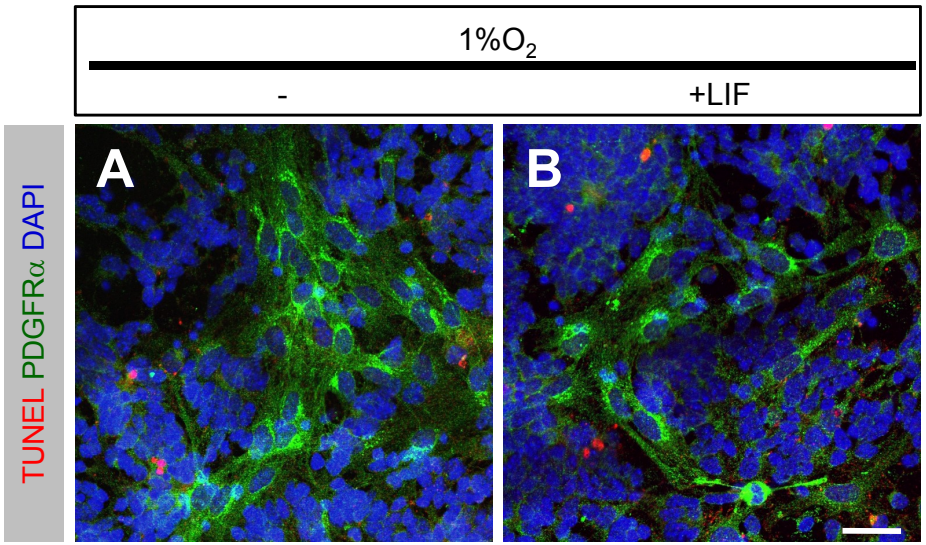




Kubota et al. Supplementary Figure 2



Kubota et al. Supplementary Figure 3



Kubota et al. Supplementary Figure 4

Supplementary Figure legends

Supplementary Figure 1. High glucose or cell confluence increases LIF expression in HUVECs.

(**A-D**) Quantitative RT-PCR of *lif* for RNA isolated from HUVECs stimulated by VEGF (**A**), hypoxia (**B**), high glucose (**C**), or culture confluence (**D**). (**E,F**) Double IHC of LIF (red in **E,F**) and PECAM-1 (green in **F**) on P17 retina in OIR. Abundant immunoreactivity of LIF is detected in NVT. Scale bars: 50 μm; *p<0.03 (compared with high glucose 0 h); **p<0.03 (compared with sparse culture).

Supplementary Figure 2. Normal expression of VEGF in the *GFAP*$^{-/-}$ retina.

(**A,C**) Double IHC of PECAM-1 (green) and GFAP (red) or (**B**,**D**) ISH for VEGF (purple) combined with IHC for collagen IV (green) in the P5 retinas. Note the diminished GFAP intensity (**C**) but comparable VEGF expression (**D**) in *GFAP*$^{-/-}$ mice. Dotted lines indicate the sprouting edges. (**E**) Quantitative RT-PCR of *vegfa* for RNA isolated from P4 retina (n=5). Scale bars: 100 μm.

Supplementary Figure 3. Normal vasculature with remaining decrease of GFAP in the *LIF*$^{-/-}$ retina at P8 and P18.

Double IHC of PECAM-1 (green in **A,C,E,G**) and GFAP (red in **B,D,F,H**) in the P8 (**A-D**) or P18 (**E-H**) retinas. Note the normal vasculature with decreased GFAP expression in *LIF*$^{-/-}$ mice. Scale bars: 100 μm.

Supplementary Figure 4. LIF does not induce apoptosis of astrocytes in hypoxic culture.

TUNEL assay (red) combined with IHC for PDGFRα (green) and DAPI (blue) on dissociated retinal cells cultured for 4 days under conditions of hypoxia supplemented with 10^{-5} mg/ml of LIF (**A**) or not (**B**).