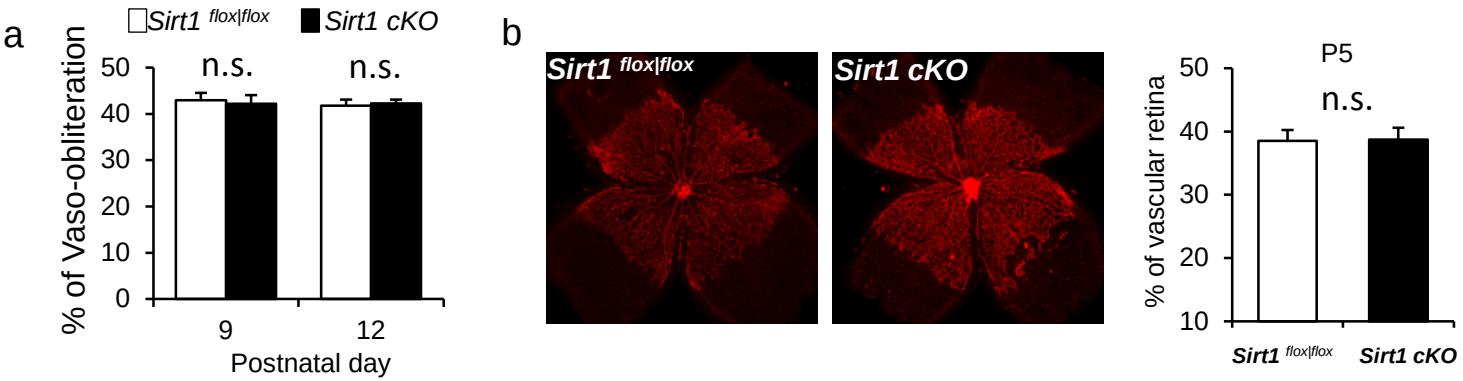
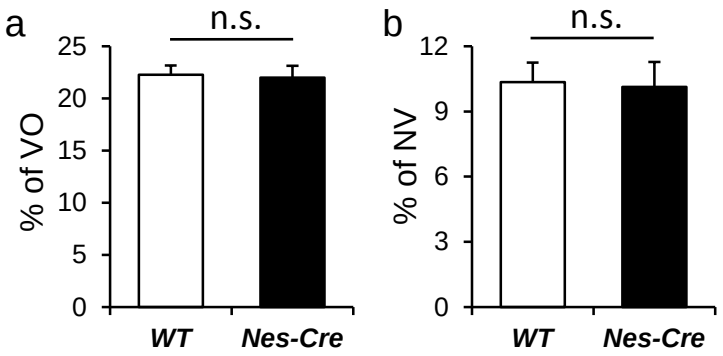
Supplemental Figure 1



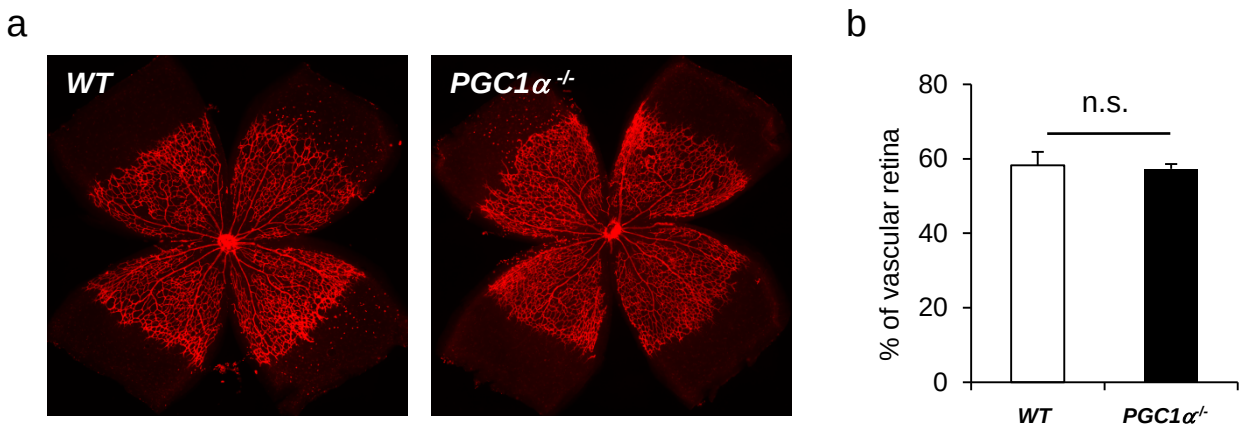
Supplemental Figure 1: Loss of neuronal Sirt1 does not change initial vessel loss in OIR and developmental angiogenesis. a) *Sirt1 cKO* retinas showed similar levels of vaso-obliteration at P9 and P12 in OIR compared to littermate controls (*Sirt1*$^{flox|flox}$). (n=6-10 per group). b) *Sirt1 cKO* retinas and littermate controls (*Sirt1*$^{flox|flox}$) flat mounts show identical levels of retinal vascularization at P5. (n=7-19 per group). n.s.: not significant.

Supplemental Figure 2



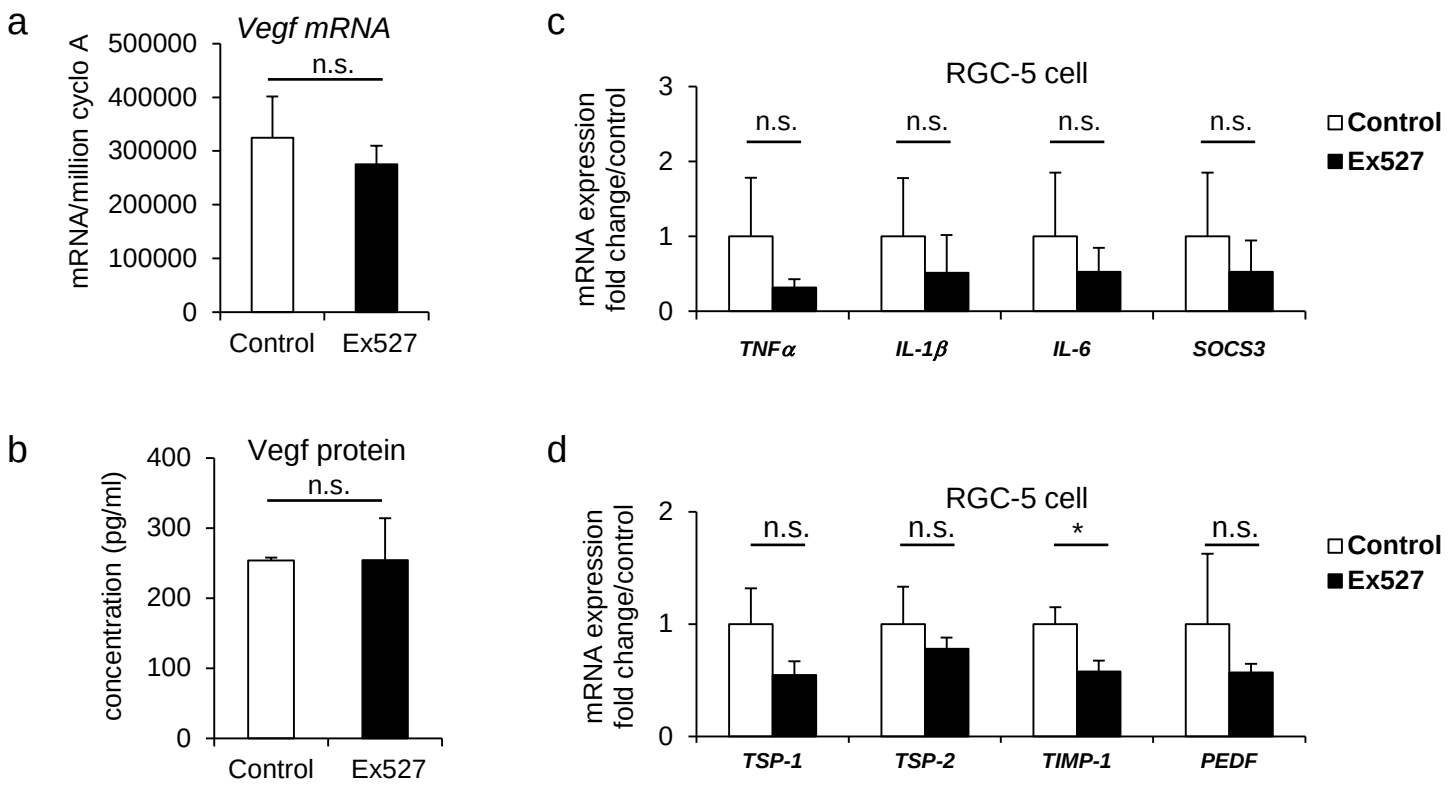
Supplemental Figure 2: Expression of Cre recombinase in nestin-expressing cells does not influence a) vaso-obliteration (VO), or b) neovascularization (NV) in OIR (n=15-18 per group). n.s.: not significant.

Supplemental Figure 3



Supplemental Figure 3: Retinal vasculature of *PGC-1α*$^{-/-}$ retinas and wild type (WT) littermate controls at P5. a) Representative retinal flat mounts of *PGC-1α*$^{-/-}$ and wild type (WT) littermate control mice. b) Quantification analysis of *PGC-1α*$^{-/-}$ and littermate control WT retinas shows similar levels of vascularized retinal area at P5 (n=8 per group). n.s.: not significant.

Supplemental Figure 4



Supplemental Figure 4: Expression of VEGF, anti-angiogenic factors and inflammatory mediators in RGC-5 cell culture treated with Sirt1 inhibitor Ex527. a) Expression levels of *Vegf* mRNA in RGC-5 cells treated with Sirt1 inhibitor Ex527. b) Protein levels of VEGF in RGC-5 cells treated with Sirt1 inhibitor Ex527. c) Expression of inflammatory mediators *TNFα, IL-1β, IL-6, SOCS3* mRNA in RGC-5 cells treated with Sirt1 inhibitor Ex527. d) Expression of anti-angiogenic factors *TSP-1, TSP-2, TIMP-1, PEDF* mRNA in RGC-5 cells treated with Sirt1 inhibitor Ex527. n.s.: not significant.