

## Figure S1. Lack of Angpt1 does not affect pericyte coverage

Brain tissue from *Angpt1*<sup>del/del</sup> embryos at E10.5 stained for Pdgfrb (green, pericytes) and Lectin (red, endothelium) show similar coverage of pericytes (A, Bar = 10  $\mu$ m). Pericytes can also be seen around larger vessels (B, Bar = 10  $\mu$ m). Later deletion of *Angpt1* does not change the coverage of pericytes either as seen in brain from E16.5 old *Angpt1*<sup>del/^(E10.5)</sup> embryos stained the same way (C, Bar = 10  $\mu$ m). Flatmount retinas from adult mice stained for CD31 (red, endothelium) and Ng2 (green, pericytes) in control and *Angpt1*<sup>del/^(E12.5)</sup> show similar coverage of pericytes (D, Bar = 10  $\mu$ m). To quantify pericyte coverage, the total length of capillaries and the number of Ng2 positive cells was measured in retina images and expressed as pericytes/ $\mu$ m capillary (n=4-7). No difference is found in pericyte coverage comparing retinas from controls and *Angpt1*<sup>del/^(E13.5)</sup> (E).

## Figure S2. Efficient gene excision after Cre recombination

Southern blot showing only the *Angpt1* del band in induced mice (A) with del, floxed, ROSA-rtTA, tetO-Cre alleles (lox/del; R+tc) compared to mice missing one or more alleles. Excision of tail gDNA (B) after Cre recombination in *Angpt1*<sup>w/lox</sup> (lane 1, 5) and *Angpt1*<sup>del/lox</sup> (lane 2-4) mice with ROSA-rtTA and tetO-Cre. Mean  $\pm$  SEM for renal cortex expression of *Angpt1*, *Angpt2*, *Tek*, *Tgfb1*, *Vegfa*, *Angpt3*, *Pdgfb*, and *Pdgfrb* in controls

and *Angpt1*<sup>del/^(E16.5)</sup> mice (n=10-14, C). Lung expression of the same genes at an earlier deletion of *Angpt1* was similar (n=3-4, D).

Figure S3. Lack of *Angpt1* does not affect lymphatic vessels

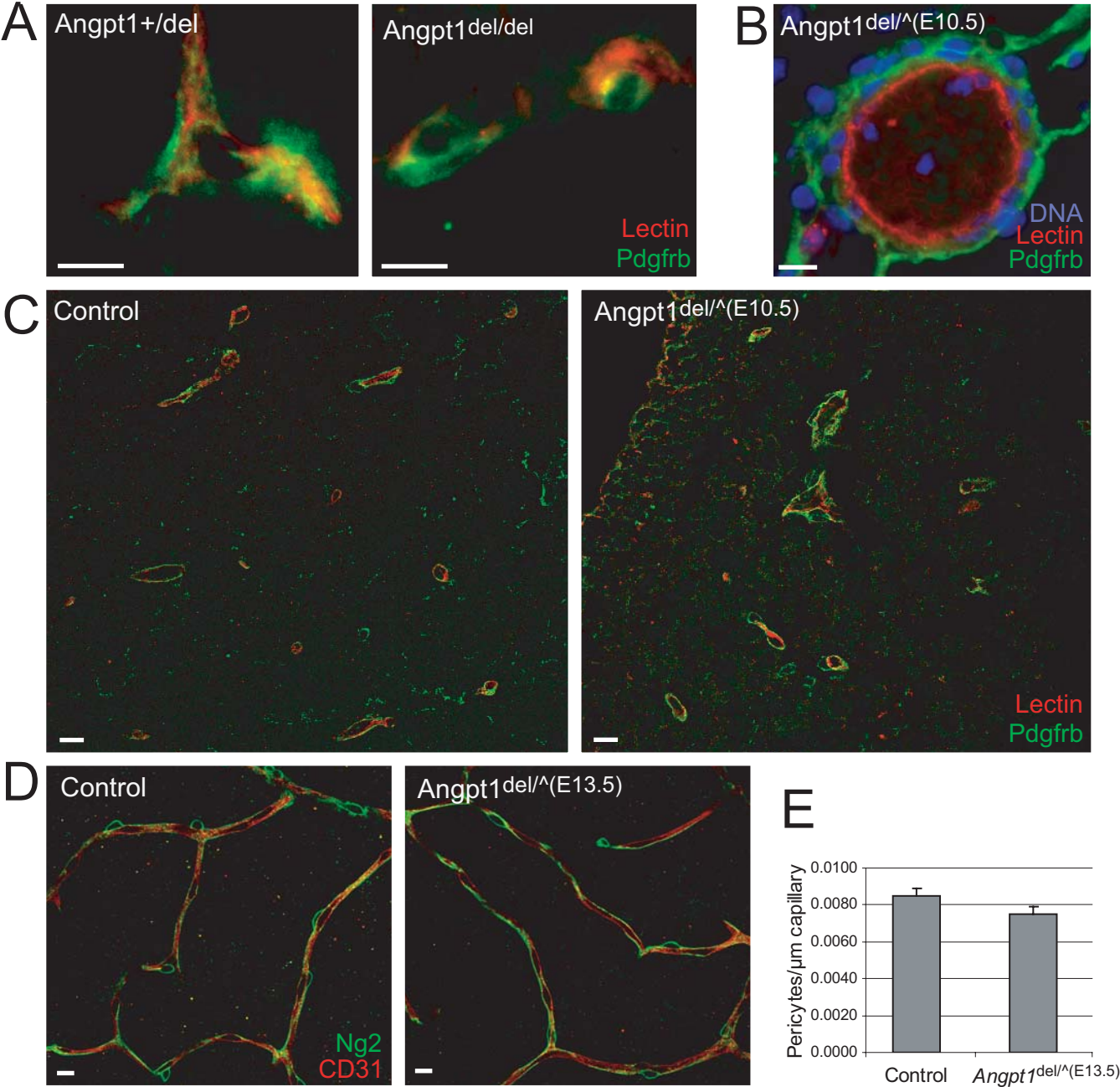
Controls and *Angpt1*<sup>del/^(E10.5)</sup> have similar pattern of lymphatic vessels as seen by Lyve1 staining.

Figure S4. Retinal vasculature and neuronal layers

*Angpt1*<sup>del/^(E13.5)</sup> retinal neural layers are reduced in number although all neural subtypes were present (A). The primary vascular plexus in control and *Angpt1*<sup>del/^(E13.5)</sup> retinas shows no difference in the number of vessel branch points counted between 2 arteries (B, C). P9 retinas are similar as well (D). GCL-ganglion cell layer, IPL-inner nuclear layer (intermediate neurons), INL-inner plexiform layer (axons), OPL-outer plexiform layer (axons), ONL-outer nuclear layer (rod and cone photoreceptors), PE-pigmented epithelium. (n=2-3)

Movies S1 and S2. Movies of OPT imaging of the vasculature at E10.5 in control embryo and embryo with heart specific deletion of *Angpt1*, *Angpt1*<sup>del/^(heart)</sup>.

Figure S1



# Figure S2

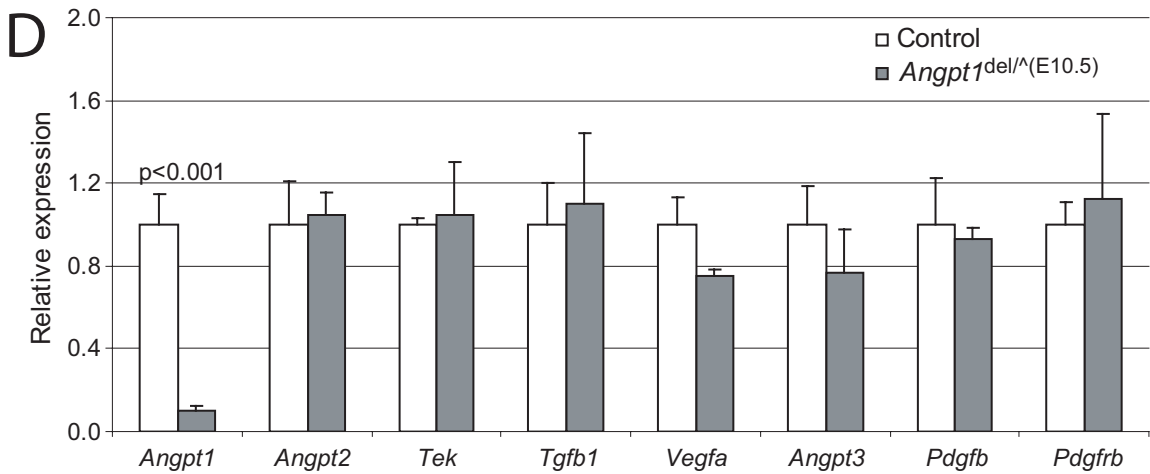
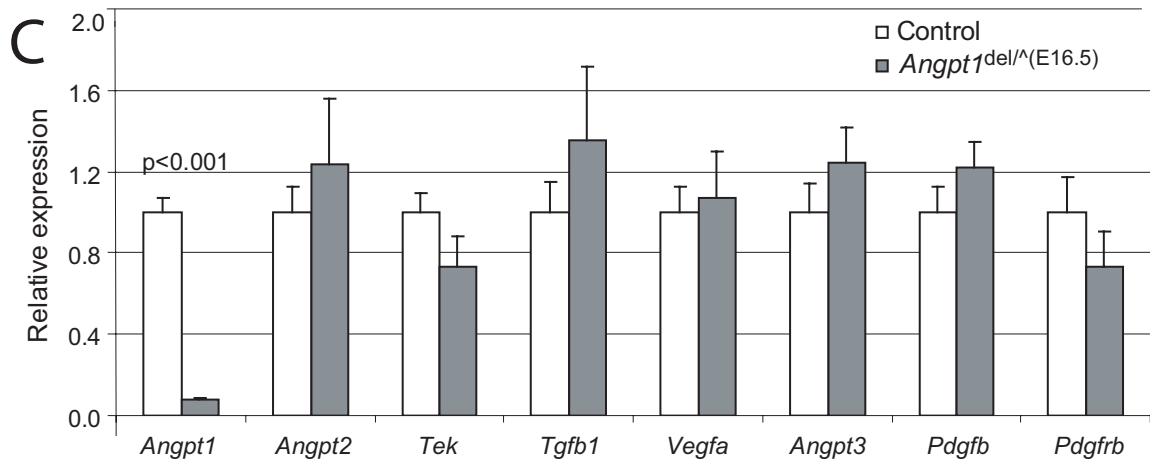
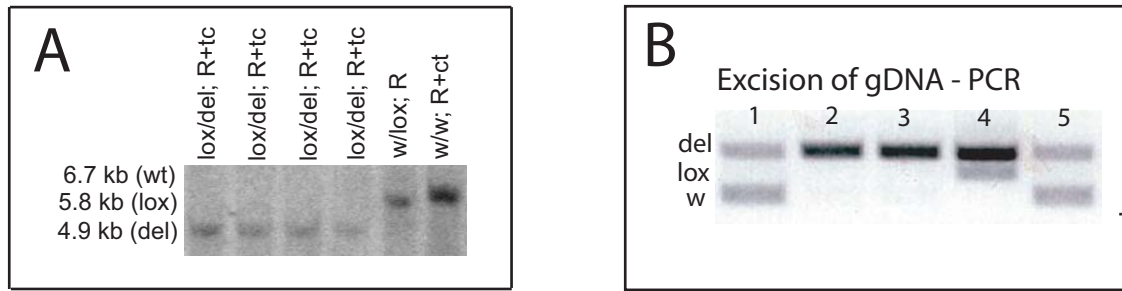
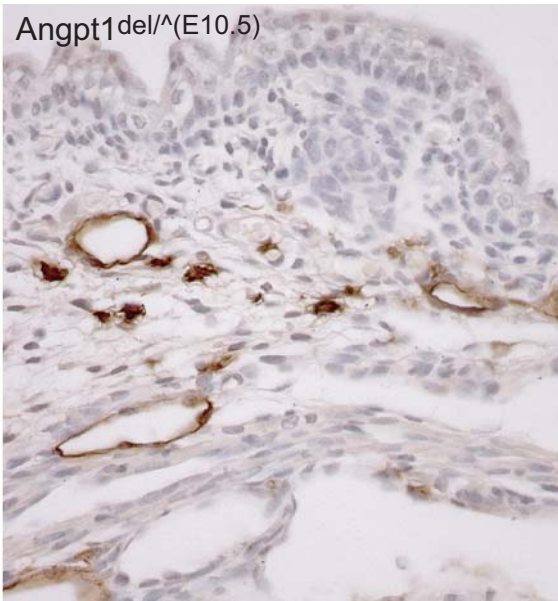
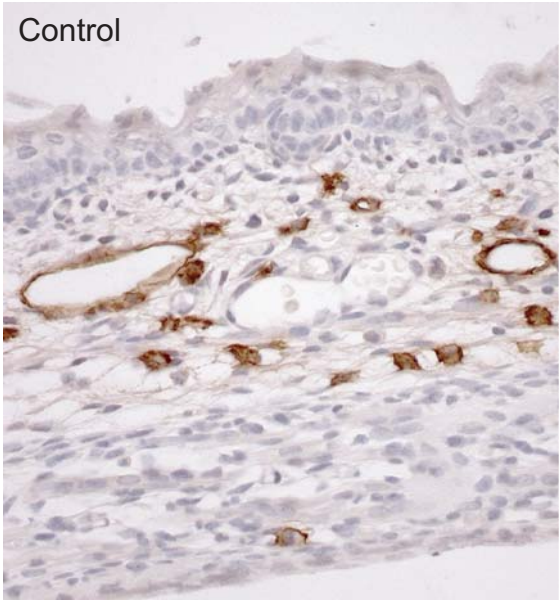


Figure S3



# Figure S4

