

SUPPLEMENTAL EXPERIMENTAL PROCEDURES

Table S1. Primers

Gene	Sequences (5' to 3')
VEGFA	F- ATCTTCAAGCCGTCCTGTGT R- GCATTCACATCTGCTGTGCT
VEGFC	F- GAGGTCAAGGTCTTTGAAGGC R- CTGTCCTGGTATTGAGGGTGG
VEGFD	F- TCACGCTCAGCATCCCATC R- ACTTCTACGCATGTCTCTCTAGG
VEGFR2	F- TTGGCAAATACAACCCTCAGA R- GCAGAAGATACTGTCACCACC
VEGFR3	F- CTGGCAAATGGTTACTCCATGA R- ACAACCCGTGTGTCTTCACTG
HIF1a	F- TCCCCTCTCCTGTAAGCAAG R- TCGACGTTCAGAACTCATCCT
RPSII	F- CGTGACGAAGATGAAGATGC R- GCACATTGAATCGCACAGTC

Mouse primer sequences were selected from Primer Bank (<http://pga.mgh.harvard.edu/primerbank/>).

Figure Legends for Supplemental Movies

Movie 1. Intravital imaging of the vasculature in the dermis of naïve mice. The ear dermis of Tie2-GFP-expressing naïve mice was analyzed by multiphoton microscopy for 30 min. Imaging was started immediately (1-2 min later) after i.v. Evans blue injection. Tie2 is in green and Evans blue in white. Representative 2D data from one mouse is shown with imaging data collected from at least 5 mice. Scale bar: 45 μ m.

Movie 2. Increased vascular permeability in the dermis is associated with *L. major* infection. The ear dermis of Tie2-GFP-expressing mice was infected with DsRed-labeled *L. major* parasites i.d. and the dermis of infected mice was analyzed at 5-6 wks p.i. by multiphoton microscopy for 30 min. Intravital imaging was started immediately (1-2 min later) after i.v. Evans blue injection. Parasites are seen in red, Tie2 in green and Evans blue in white. Representative 2D data from one mouse is shown with imaging data collected from at least 5 mice. Scale bar: 45 μ m.

Movie 3. Intravital imaging of the vasculature in the dermis of naïve mice. The ear dermis of Tie2-GFP-expressing naïve mice was analyzed by multiphoton microscopy for 30 min. Imaging was started immediately (1-2 min later) after i.v. Evans blue injection. Tie2 is in green and Evans blue in white. Representative 3D data from one mouse is shown with imaging data collected from at least 5 mice. 1 unit: 45.86 μ m.

Movie 4. Increased vascular permeability in the dermis is associated with *L. major* infection. The ear dermis of Tie2-GFP-expressing mice was infected with DsRed-labeled *L. major* parasites i.d. and the dermis of infected mice was analyzed at 5-6 wks p.i. by multiphoton microscopy for 30 min. Intravital imaging was started immediately (1-2 min later) after i.v. Evans blue injection. Parasites are seen in red, Tie2 in green and Evans

blue in white. Representative 3D data from one mouse is shown with imaging data collected from at least 5 mice. 1 unit: 45.86 μm .