

Figure S1. Neutrophils are recruited to grafts.

(A-D) Confocal images of *mpx:mCherry*-expressing neutrophils (red) in zebrafish embryo grafts (blue) at 6 hpi, scale bar = 50 μ m. **(E)** Quantitation of graft-associated neutrophils at 6, 24 and 48 hpi, $n > 9$. Error bars represent s.d. n.s $p > 0.05$, $**p < 0.01$ by a one-way ANOVA, scale bar = 50 μ m.

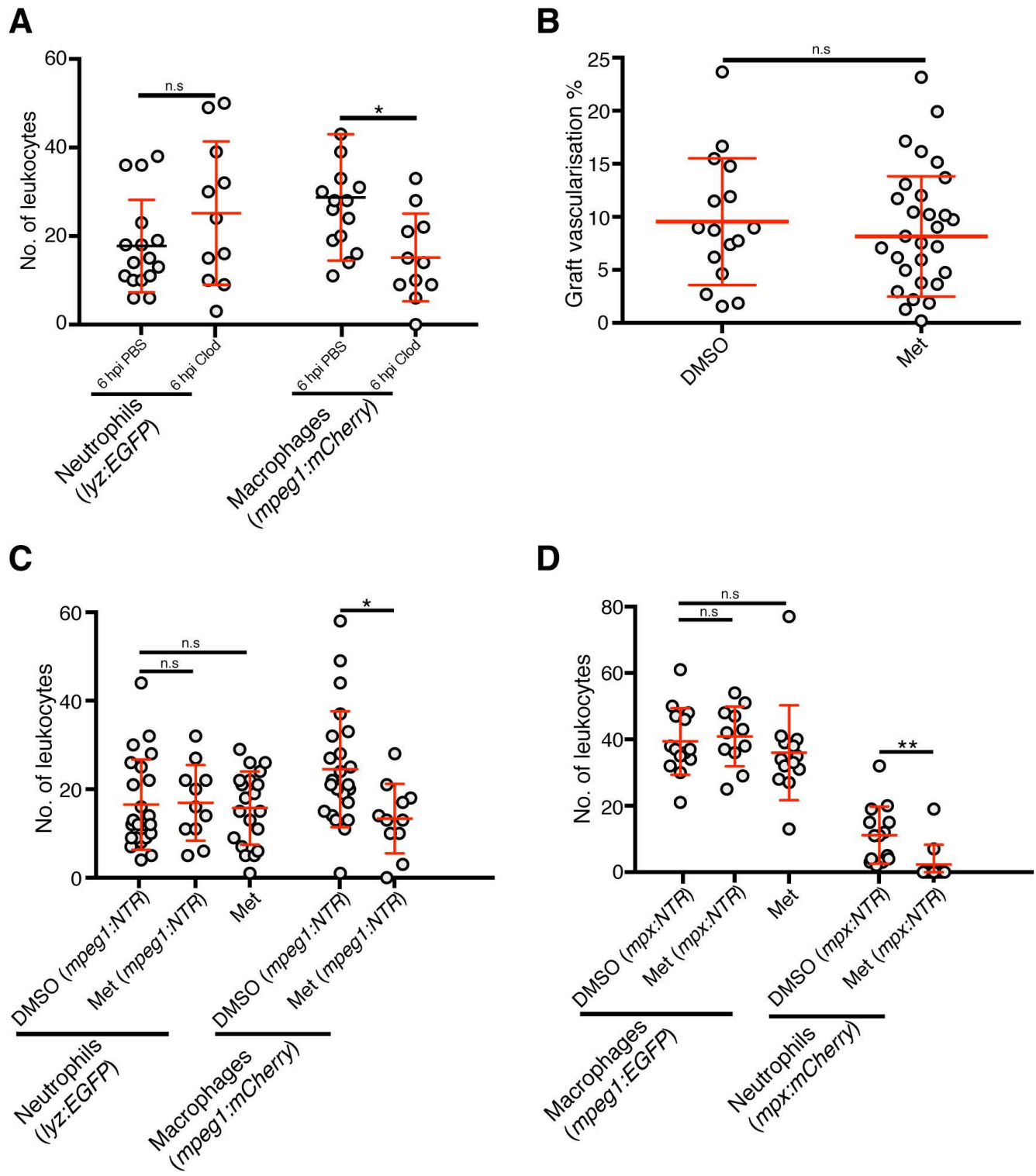


Figure S2. Controls for nitroreductase and clodronate-mediated cell ablations.

(A) Quantitation of MDA-MB-231 xenograft-associated neutrophils and macrophages at 6 hpi in embryos injected with either PBS-containing or clodronate-containing liposomes, $n > 10$. **(B)** Quantitation of graft vascularisation at 2 dpi in MDA-MB-231 xenografts, incubated in 0.75% DMSO or 7.5 mM metronidazole, $n > 15$. **(C)** Quantitation of MDA-MB-231 xenograft-associated neutrophils and macrophages at 6 hpi in either *mpeg1:NTR*-expressing or *NTR*-non-expressing embryos incubated in either 0.75% DMSO or 7.5 mM metronidazole, $n > 10$. **(D)** Quantitation of MDA-MB-231 xenograft-associated macrophages and neutrophils at 6 hpi in *mpx:NTR*-expressing and *NTR* non-expressing embryos incubated in either 0.75% DMSO or 7.5 mM metronidazole, $n > 10$. Error bars represent s.d. n.s $p > 0.05$, $*p < 0.05$, $**p < 0.01$ by t-test (A-D), or a one-way ANOVA (C-D).

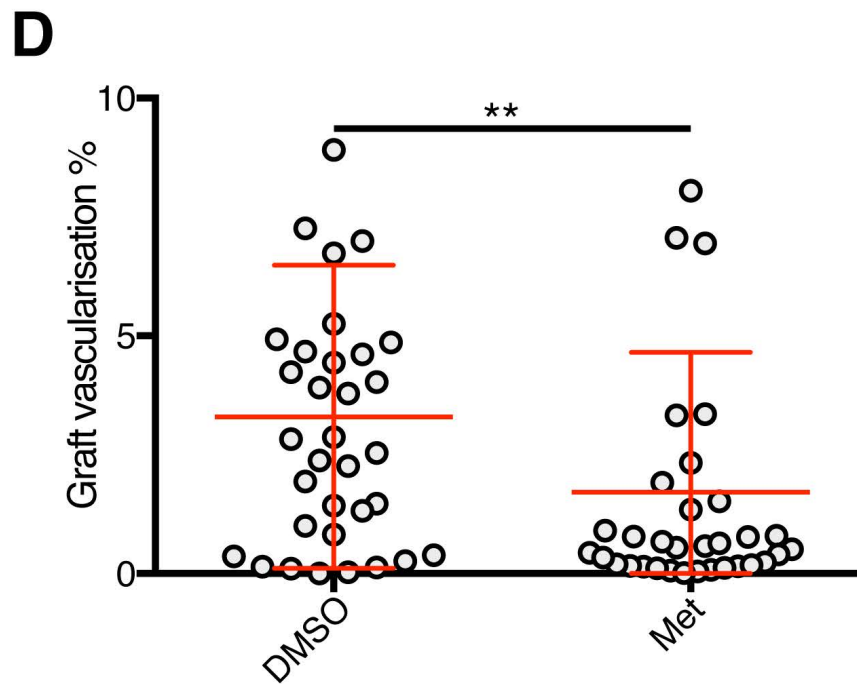
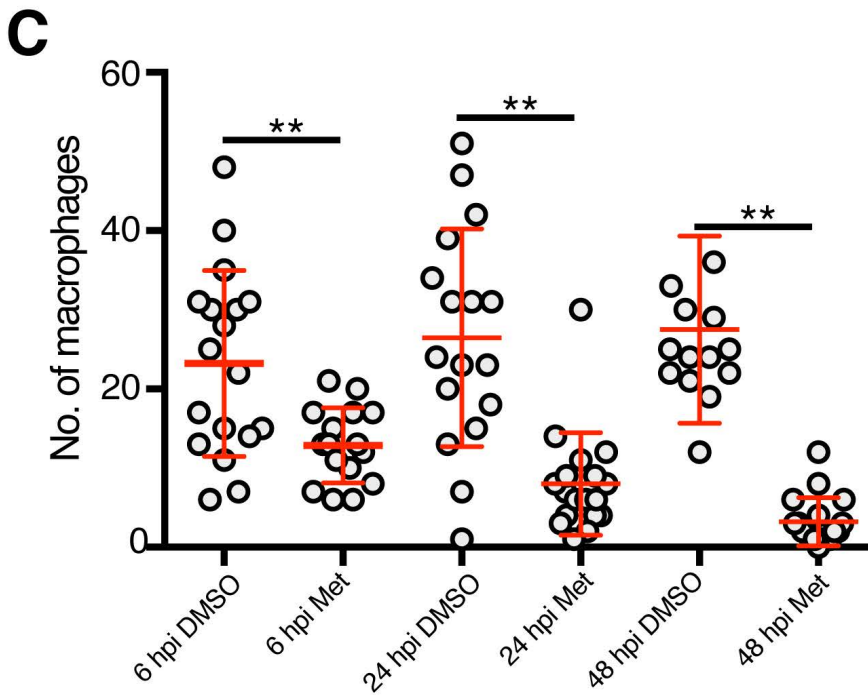
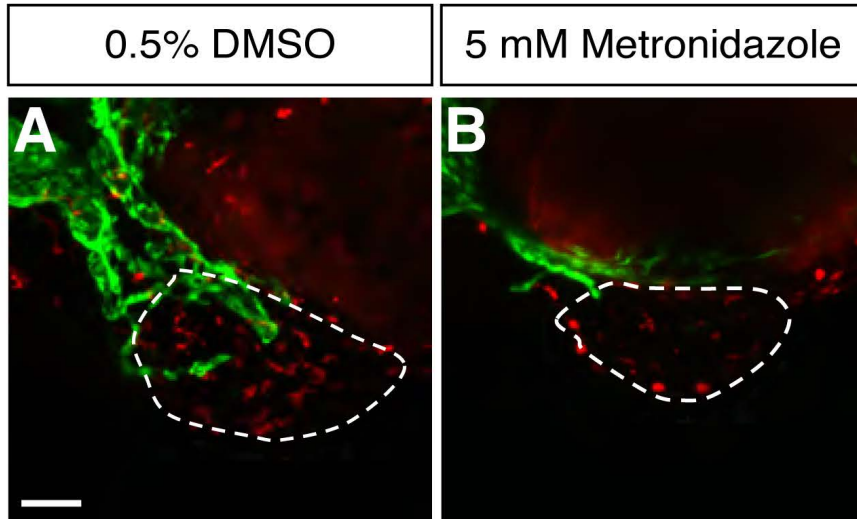


Figure S3. Nitroreductase-mediated ablation of macrophages reduced xenograft vascularisation.

(A-B) Confocal images of *kdrl:EGFP*-expressing blood vessels (green) and *mpeg1:mCherry*-expressing macrophages (red) in MDA-MB-231 xenografts (white dashed line) in embryos at 2 dpi incubated in either 0.5% DMSO (A) or 5 mM metronidazole (B). **(C)** Quantitation of xenograft-associated macrophages in embryos incubated in either 0.5% DMSO or 5 mM metronidazole at 6, 24 and 48 hpi, n>15. **(D)** Quantitation of graft vascularisation at 2 dpi in embryos incubated in either 0.5% DMSO or 5 mM metronidazole, n>20. Error bars represent s.d. **p<0.01 by t-test, scale bar = 50 μ m.

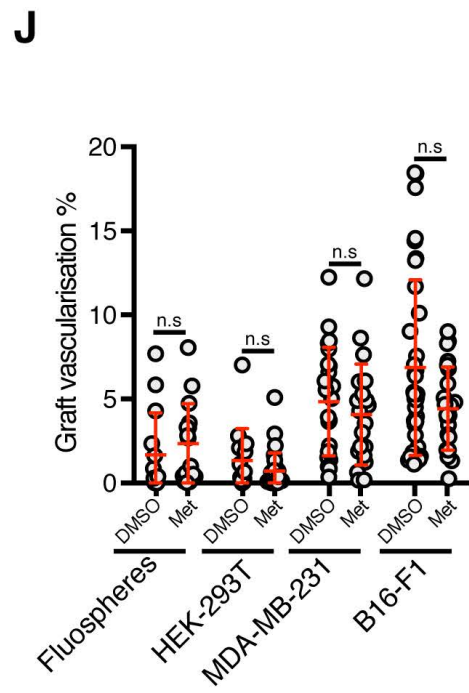
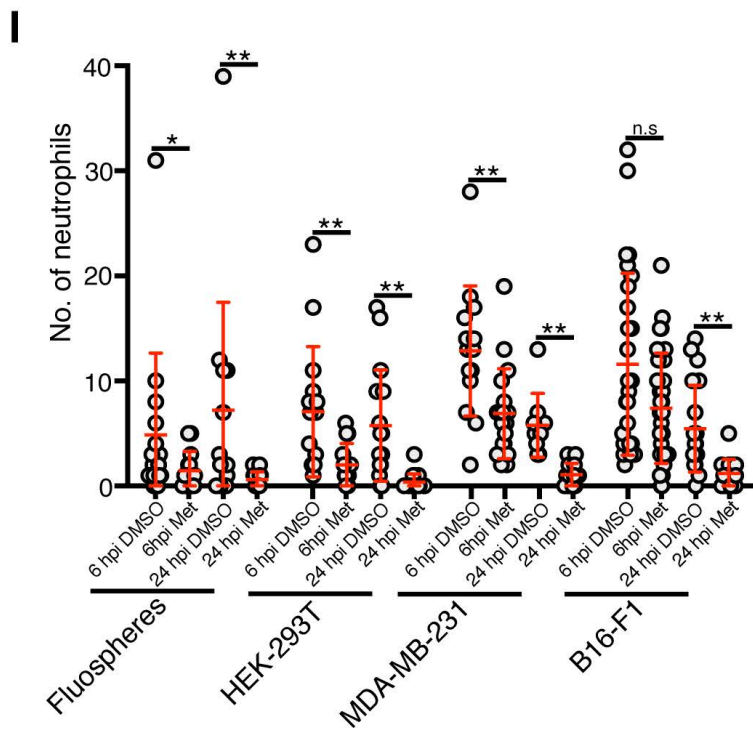
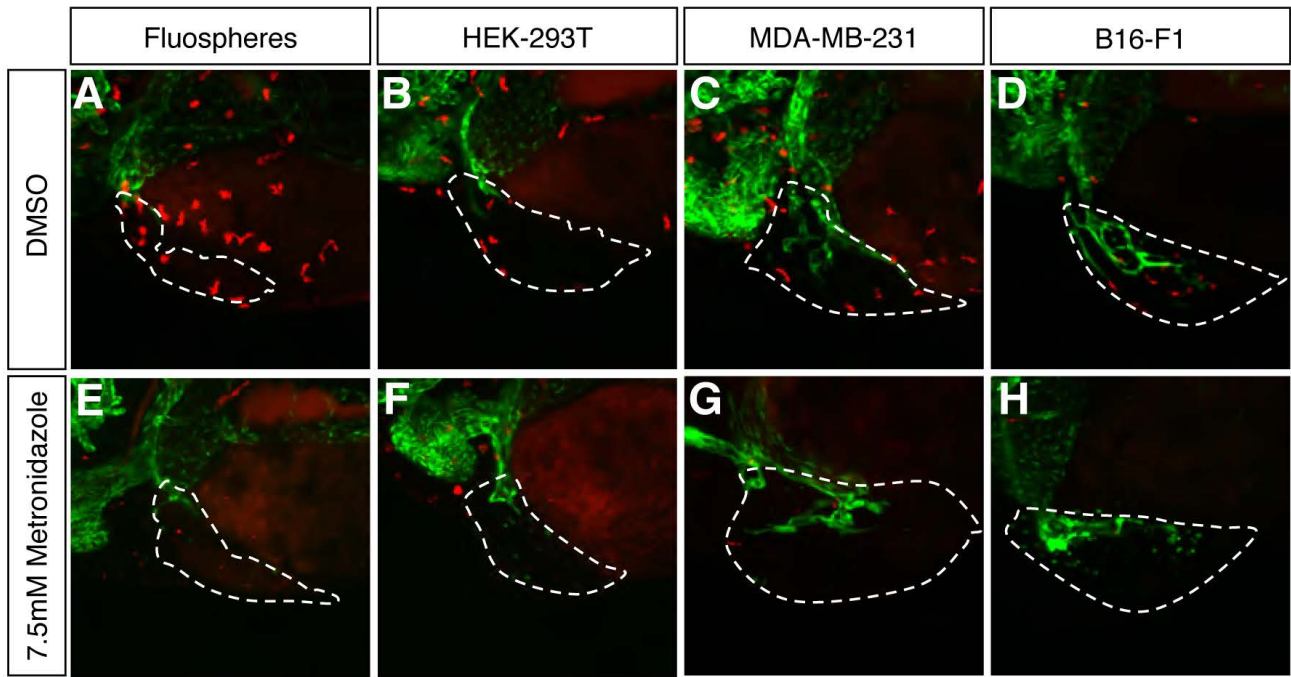


Figure S4. Nitroreductase-mediated ablation of neutrophils does not affect graft vascularisation.

(A-H) Confocal images of *mpx:mCherry*-expressing neutrophils (red) and *kdrl:EGFP*-expressing blood vessels (green) in zebrafish embryo grafts (white dashed line) at 2 dpi, which have been incubated in either 0.75% DMSO (A-D) or 7.5 mM metronidazole (E-H). **(I)** Quantitation of graft-associated neutrophils at 6 and 24 hpi in embryos incubated in either 0.75% DMSO or 7.5 mM metronidazole, $n > 8$. **(J)** Quantitation of graft vascularisation at 2 dpi, in embryos incubated in either 0.75% DMSO or 7.5 mM metronidazole, $n > 13$. Error bars represent s.d. n.s $p > 0.05$, * $p < 0.05$, ** $p < 0.01$ by t-test, scale bar = 50 μm .

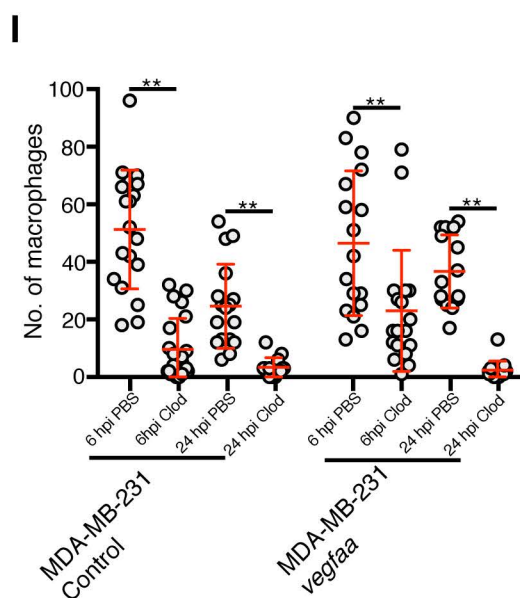
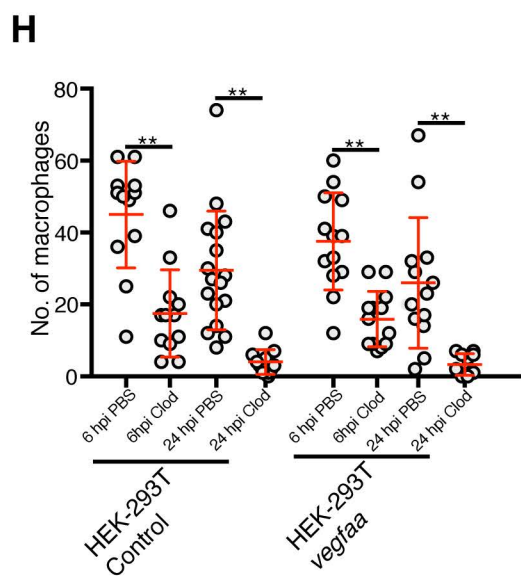
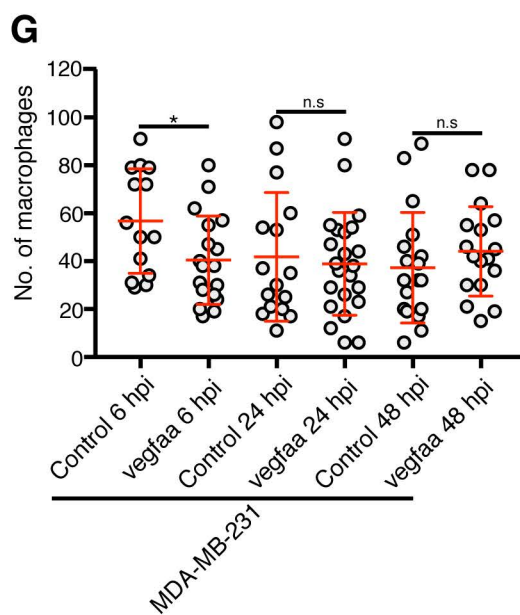
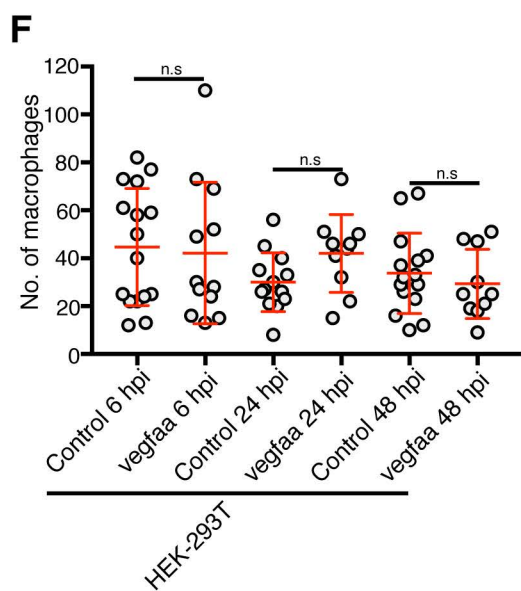
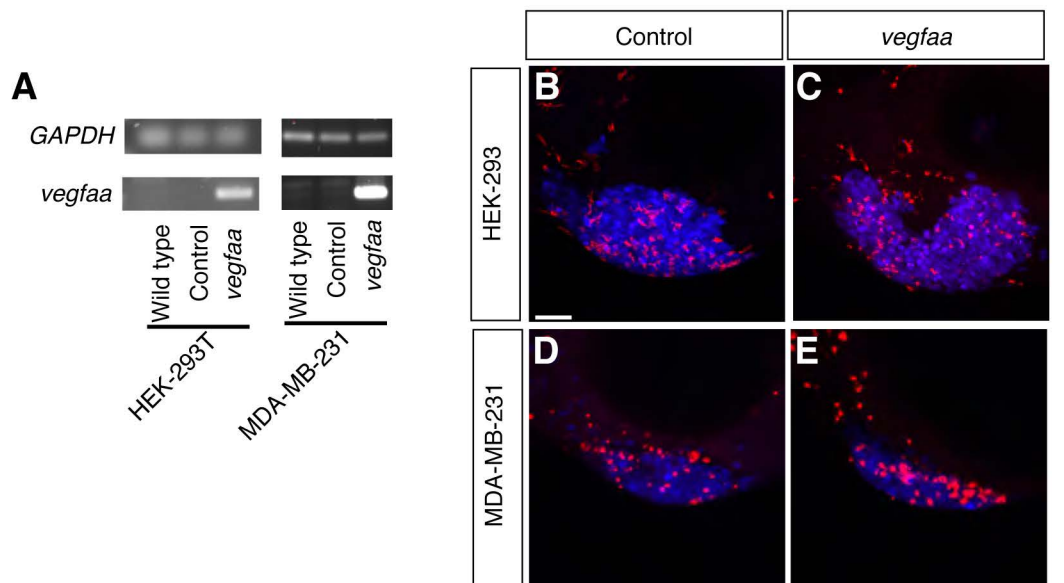
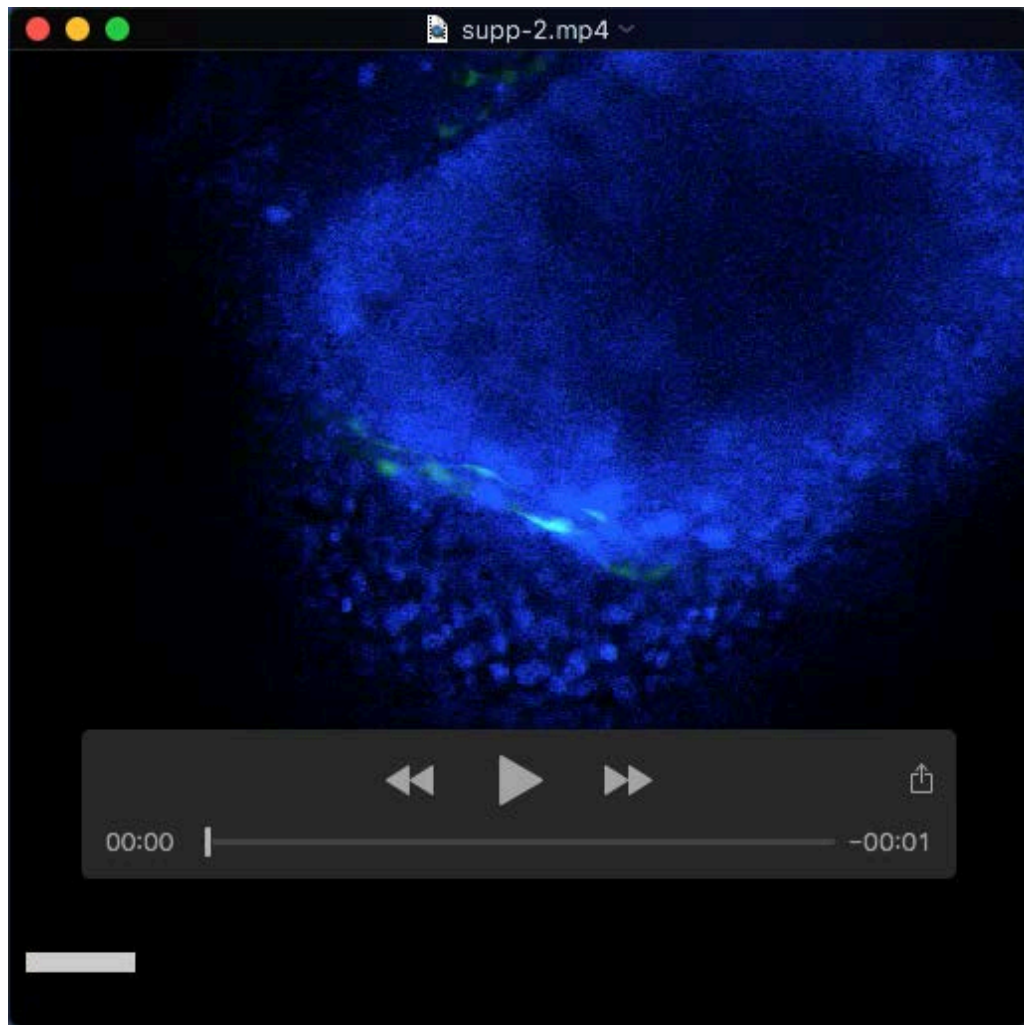


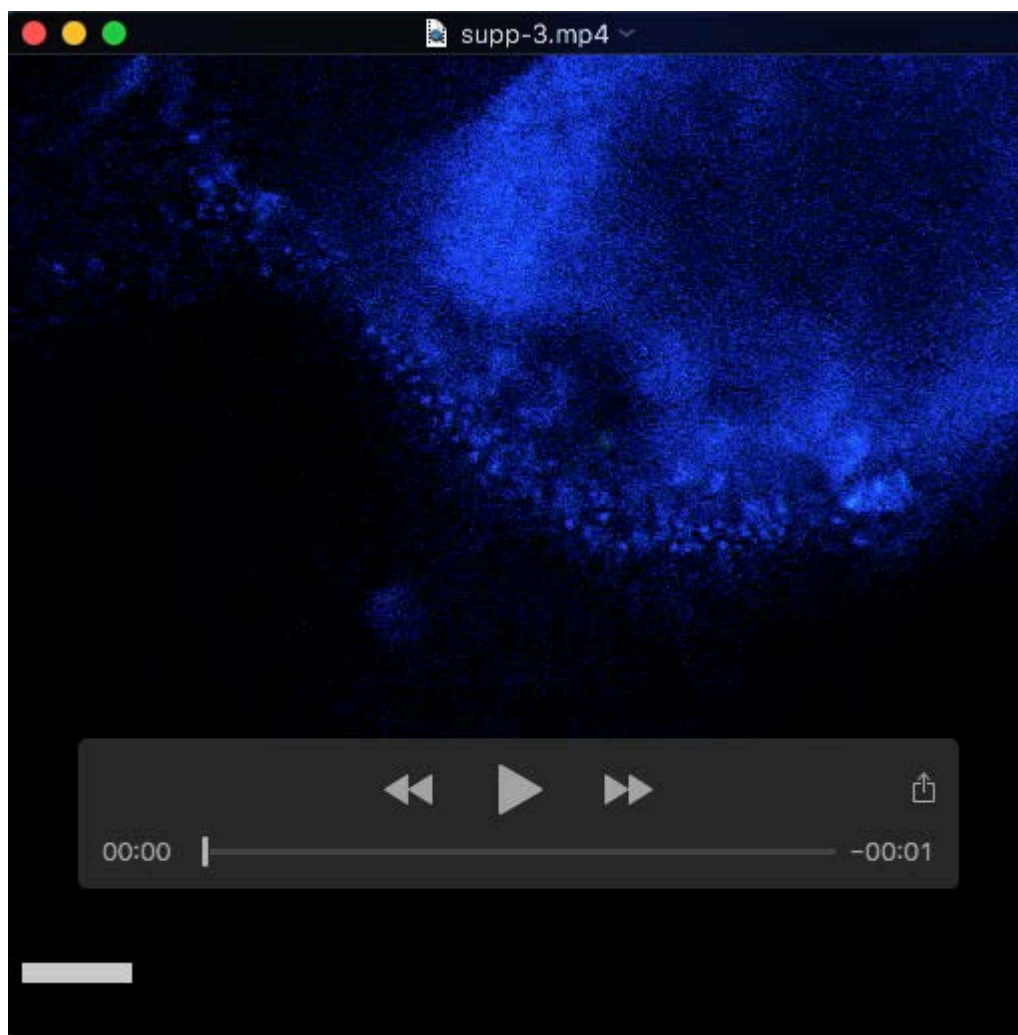
Figure S5. Characterisation of *vegfaa*-expressing xenografts.

(A) RT-PCR from HEK-293T and MDA-MB-231 cells transfected with either a control vector or a *vegfaa*-expression vector. **(B-E)** Confocal images taken at 6 hpi of *mpeg1:mCherry*-expressing macrophages (red) in zebrafish embryos implanted with either HEK293T (B-C) or MDA-MB-231 (D-E) xenografts (blue) transfected with either a control expression vector (B,D) or a *vegfaa*-expression vector (C,E). **(F-G)** Quantitation of macrophage recruitment to either HEK-293T (F) or MDA-MB-231 (G) xenografts at 6, 24 and 48 hpi, n>9. **(H-I)** Quantitation of macrophage recruitment to either HEK-293T (H) or MDA-MB-231 (I) xenografts at 6 and 24 hpi in embryos injected with either PBS-containing or clodronate-containing liposomes, n>10. Error bars represent s.d. n.s p>0.05, *p<0.05, **p<0.01 by t-test, scale bar = 50 μ m.



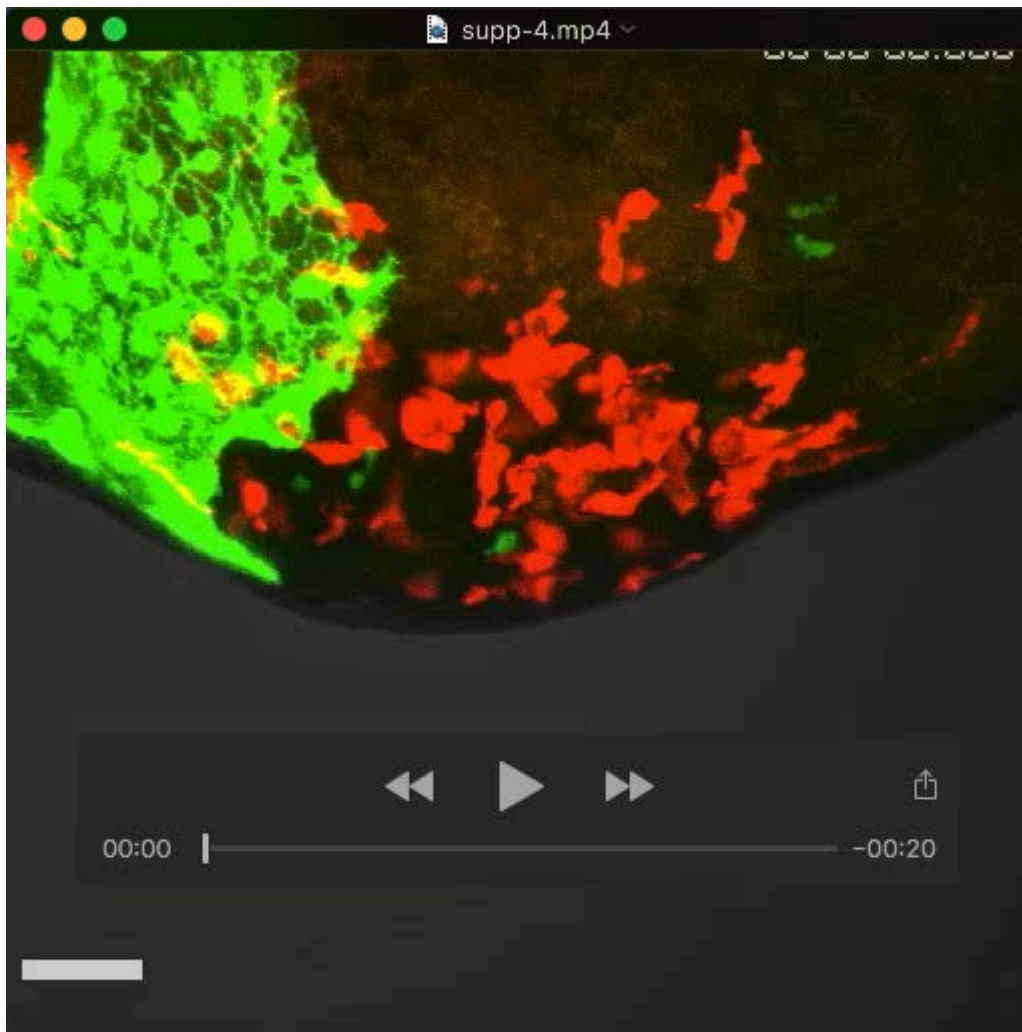
Movie 1. Z-stack of graft vessels in a B16-F1 xenograft in an embryo injected with PBS liposomes.

A movie showing the sections of a confocal z-stack taken through a B16-F1 xenograft (blue) in a *kdrl:EGFP* embryo that had been injected with PBS liposomes. Scale bar = 50 μ m.



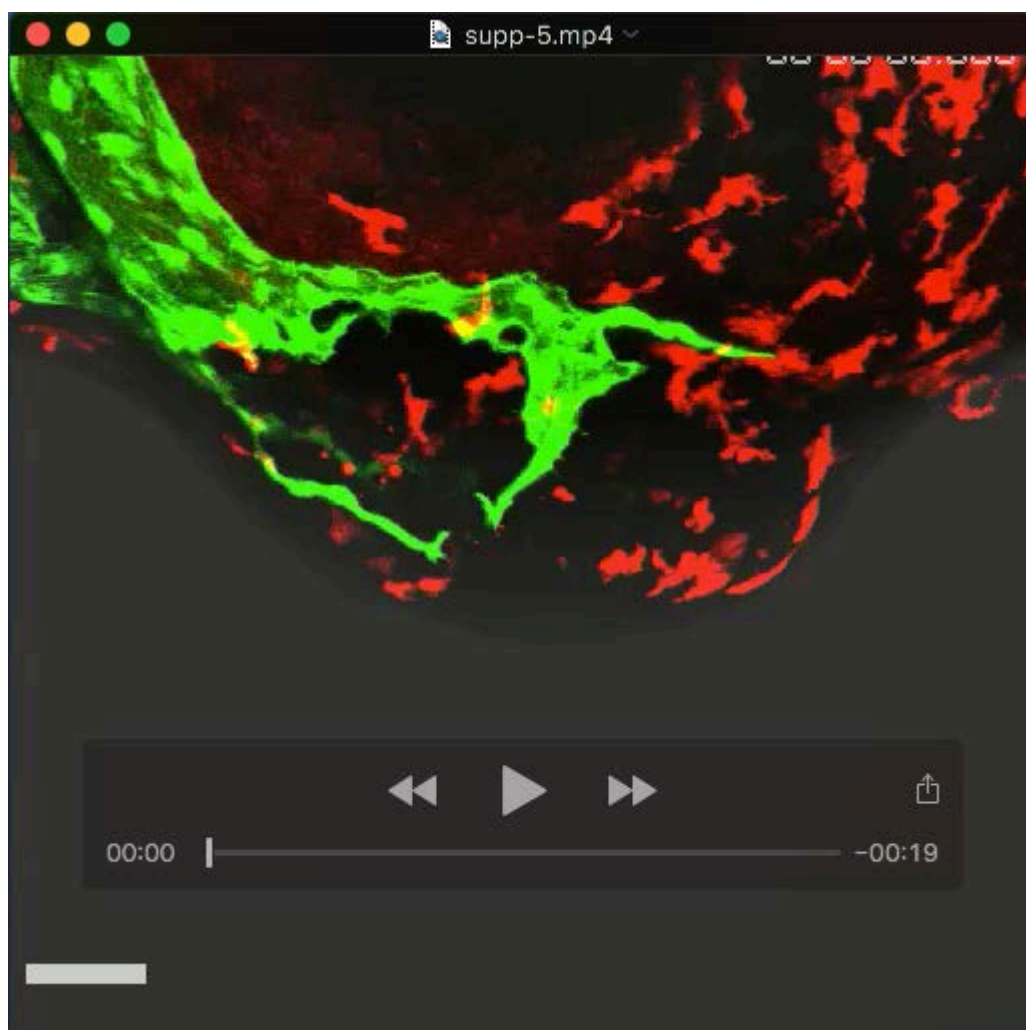
Movie 2. Z-stack of graft vessels in a B16-F1 xenograft in an embryo injected with clodronate liposomes.

A movie showing the sections of a confocal z-stack taken through a B16-F1 xenograft (blue) in a *kdr1:EGFP* embryo that had been injected with clodronate liposomes. Scale bar = 50 μ m.

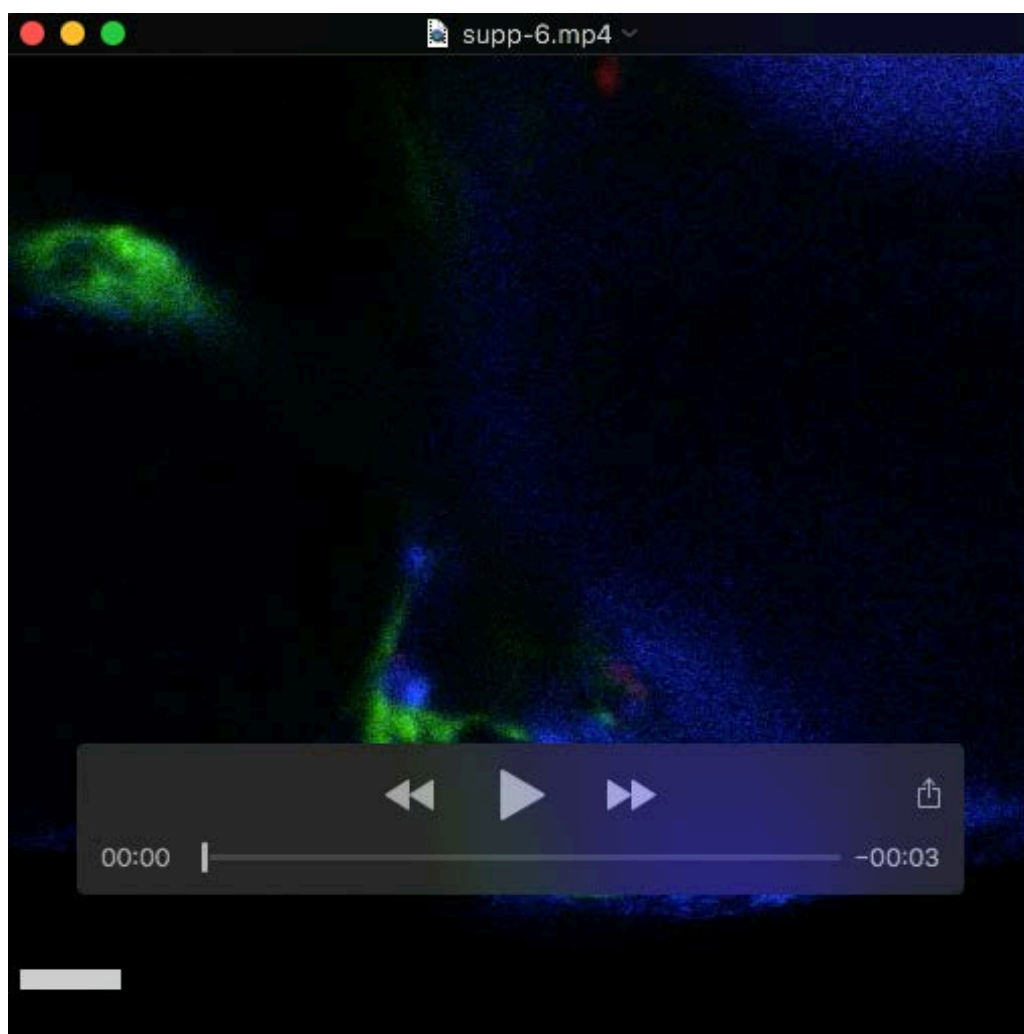


Movie 3. Macrophages interacting with vessels growing in an MDA-MB-231 xenograft.

Confocal time-lapse imaging of an MDA-MB-231 xenograft implanted in an *mpeg1:NTR:mCherry;kdrl:EGFP* embryo from 8.5 hpi to 32 hpi. Time-lapse image z-stacks were collected 10 min apart; movie was made at 7 frames per second. The most dorsal vessel was analysed in Fig. 4 between 21 hpi to 27.25 hpi. Scale bar = 50 μ m.

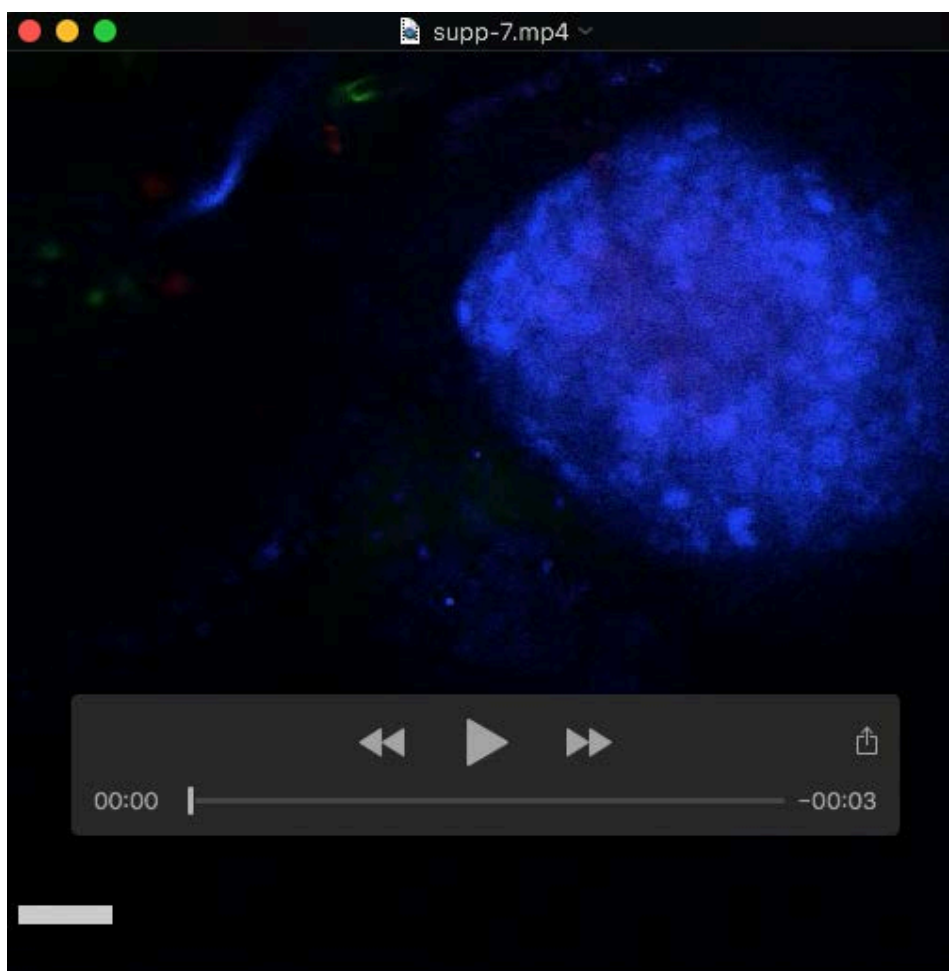


Movie 4. Macrophages interacting with vessels growing in a B16-F1 xenograft. Confocal time-lapse imaging of a B16-F1 xenograft implanted in an *mpeg1:NTR:mCherry;kdrl:EGFP* embryo from 24 hpi to 46.33 hpi. Time-lapse image z-stacks were collected 10 min apart; movie was made at 7 frames per second. The vessel that is most ventral at 27.5 hpi was analysed in Fig. 4 between 27.5 hpi to 32.5 hpi. Scale bar = 50 μ m.



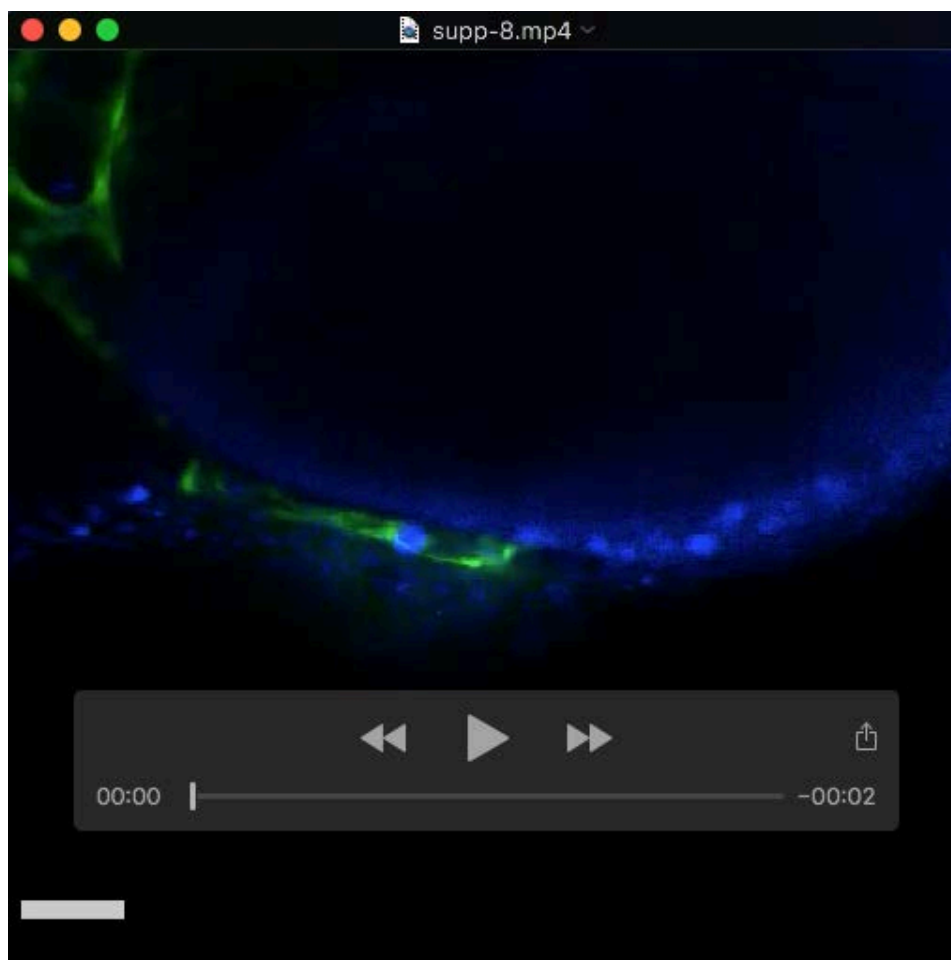
Movie 5. Z-stack of graft vessels in a *vegfaa*-expressing HEK-293T xenograft in an embryo injected with PBS liposomes.

A movie showing the sections of a confocal z-stack taken through a *vegfaa*-expressing HEK-293T xenograft (blue) in a *kdrl:EGFP* embryo that had been injected with PBS liposomes. Scale bar = 50 μ m.



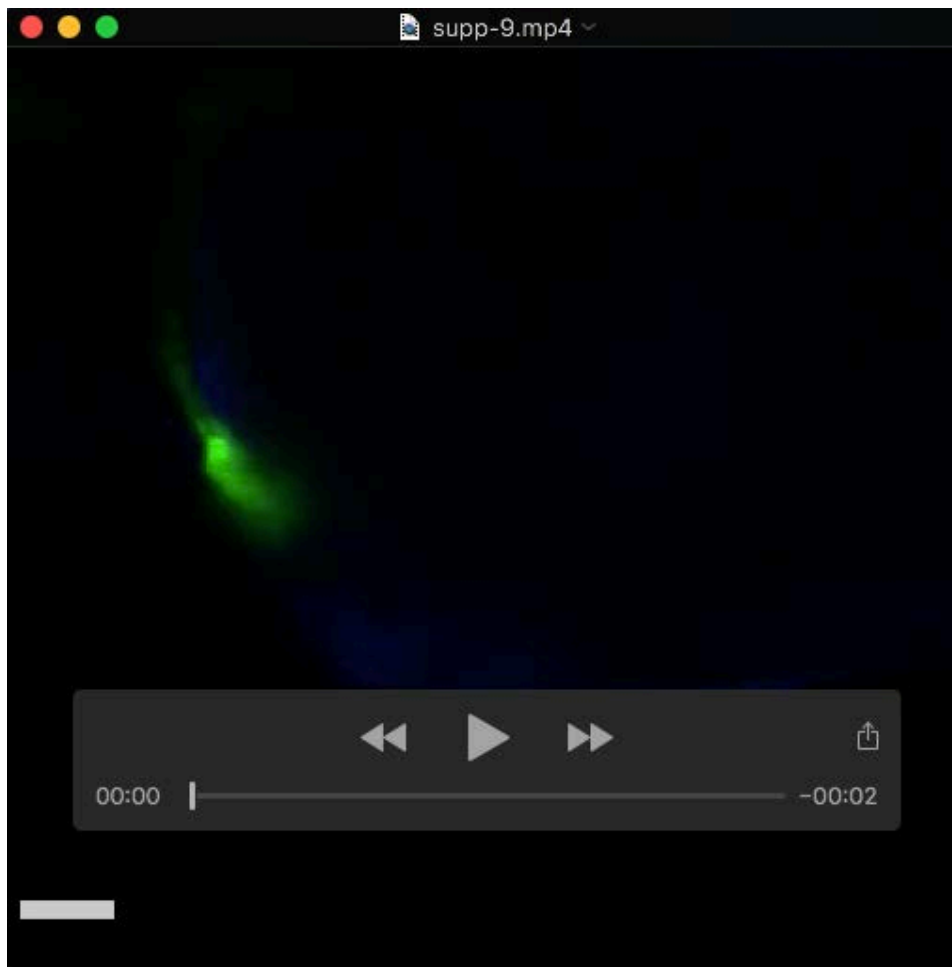
Movie 6. Z-stack of graft vessels in a *vegfaa*-expressing HEK-293T xenograft in an embryo injected with clodronate liposomes.

A movie showing the sections of a confocal z-stack taken through a *vegfaa*-expressing HEK-293T xenograft (blue) in a *kdrl:EGFP* embryo that had been injected with clodronate liposomes. Scale bar = 50 μ m.



Movie 7. Z-stack of graft vessels in a *vegfaa*-expressing MDA-MB-231 xenograft in an embryo injected with PBS liposomes.

A movie showing the sections of a confocal z-stack taken through a *vegfaa*-expressing MDA-MB-231 xenograft (blue) in a *kdr:EGFP* embryo that had been injected with PBS liposomes. Scale bar = 50 μ m.



Movie 8. Z-stack of graft vessels in a *vegfaa*-expressing MDA-MB-231 xenograft in an embryo injected with clodronate liposomes.

A movie showing the sections of a confocal z-stack taken through a *vegfaa*-expressing MDA-MB-231 xenograft (blue) in a *kdrl:EGFP* embryo that had been injected with clodronate liposomes. Scale bar = 50 μ m.