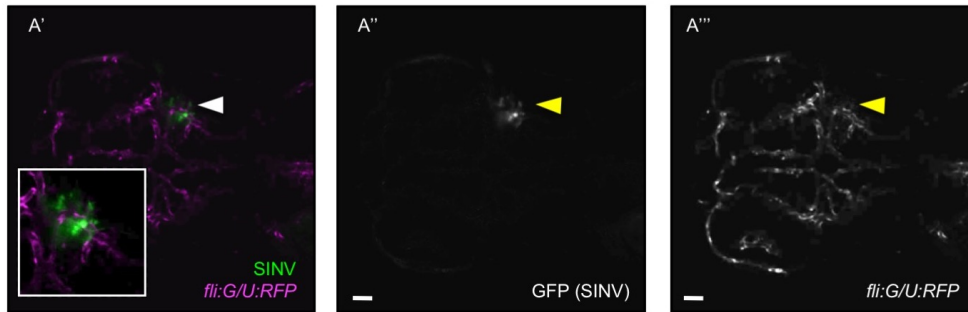
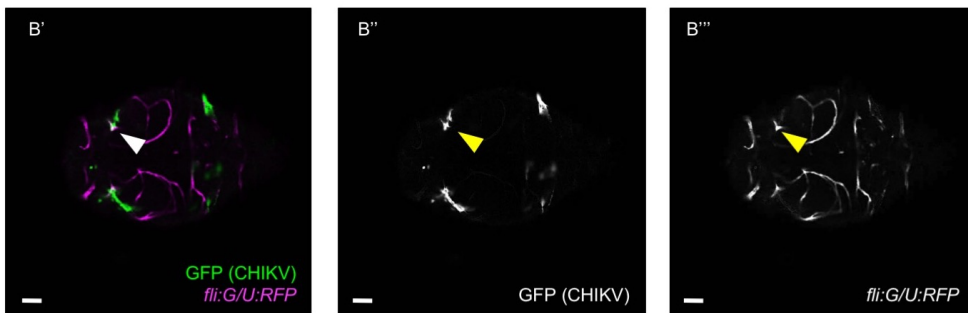


A – SINV (1 dpi)



B – CHIKV (1 dpi)



C – SINV (2 dpi) CLARITY

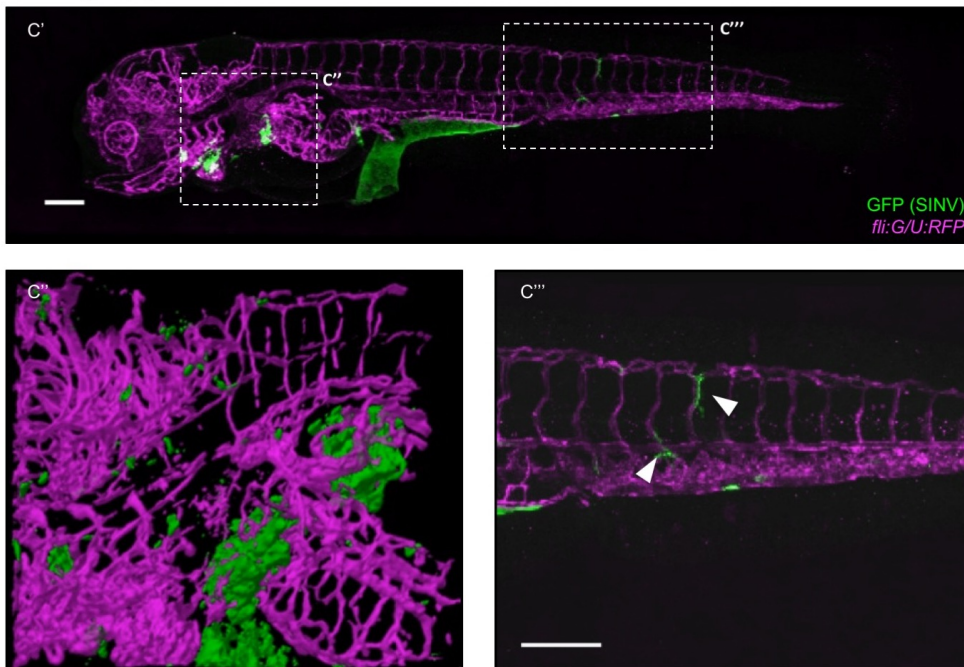


Figure S1. High magnification imaging of vasculature in infected larvae.

Confocal imaging, single focal planes extracted from Fig. (3A') and (3D'). Scale bars: 50 μ m.

(A) SINV infection live imaging, from Fig. (3A'); (A') merge of green (infected cells) and magenta (endothelium) fluorescence; (A'') green (infected cells) fluorescence; (A''') magenta (endothelium) fluorescence. White and yellow arrowheads: infected areas close to but not part of the vasculature.

(B) CHIKV infection, fixed sample labeled for GFP and RFP, from Fig. (3D'). (B') merge of green (infected cells) and magenta (endothelium) fluorescence; (B'') green (infected cells) fluorescence; (B''') magenta (endothelium) fluorescence. White and yellow arrowheads: areas of colocalization.

(C'-C''') SINV infection, fixation at 2 dpi followed by clarity treatment and immunolabeling for GFP and RFP, lateral views; (C') Entire larva, boxes indicate the magnified areas in (C'') and (C'''); (C'') 3D rendering of the heavily infected area encompassing gills, liver, and hindbrain. See **Movie 3**, for rotation of the 3D structure; (C''') High magnification of the infected area in the tail region. White arrowheads: infected cells close to but not part of the vasculature. Scale bars: 150 μ m.

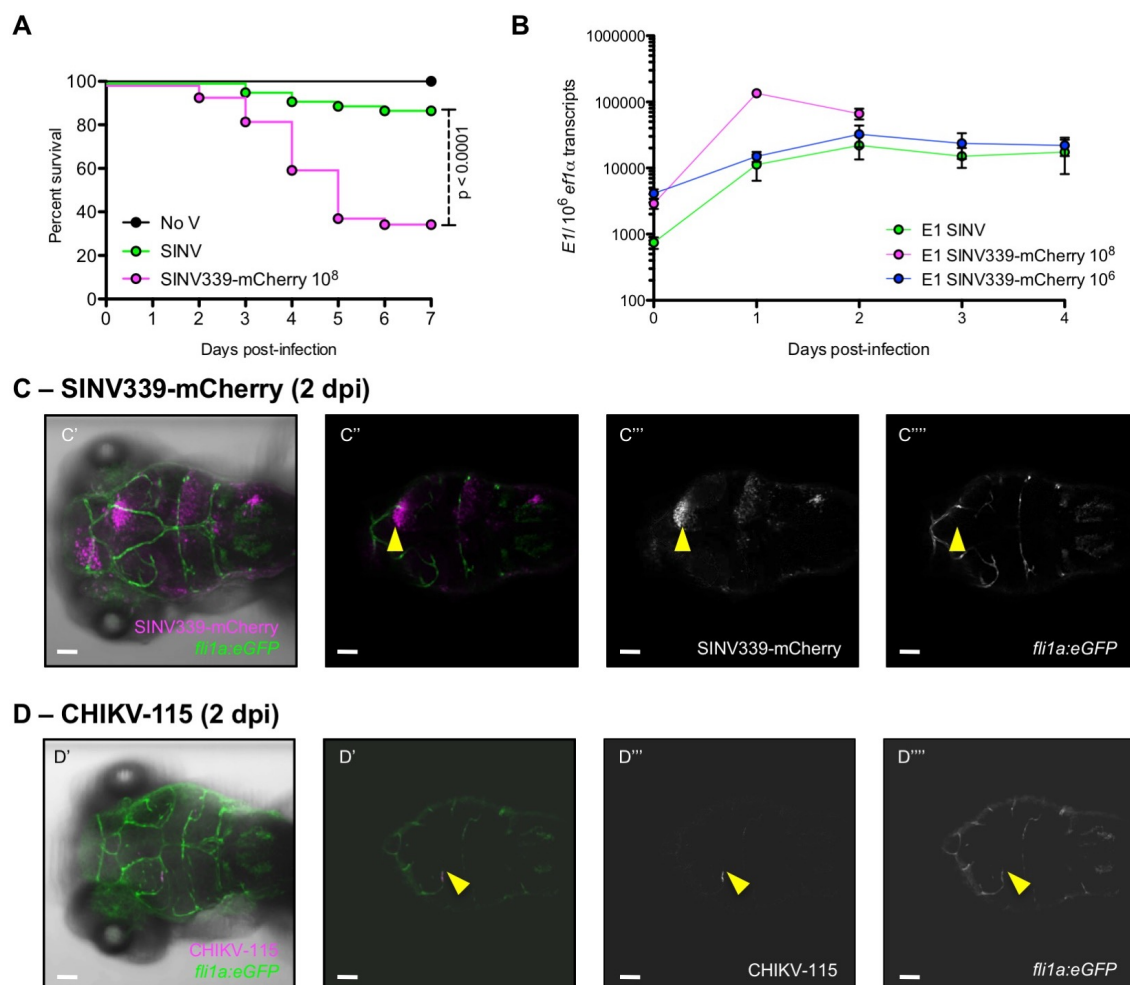


Figure S2. Infection of zebrafish larvae with other SINV and CHIKV strains.

(A and B) Characterization of SINV339-mCherry strain in zebrafish WT larvae. (A) Survival curves of control uninfected (No V) and SINV- or SINV339-mCherry infected zebrafish larvae. Data pooled from 5 independent experiments. N = 60 larvae per group. (B) Expression levels of E1 SINV gene, measured via qRT-PCR, for SINV and SINV339-mCherry (2 different concentrations). Note that at the highest concentration, all SINV339-mCherry infected larvae had succumbed at 2 dpi.

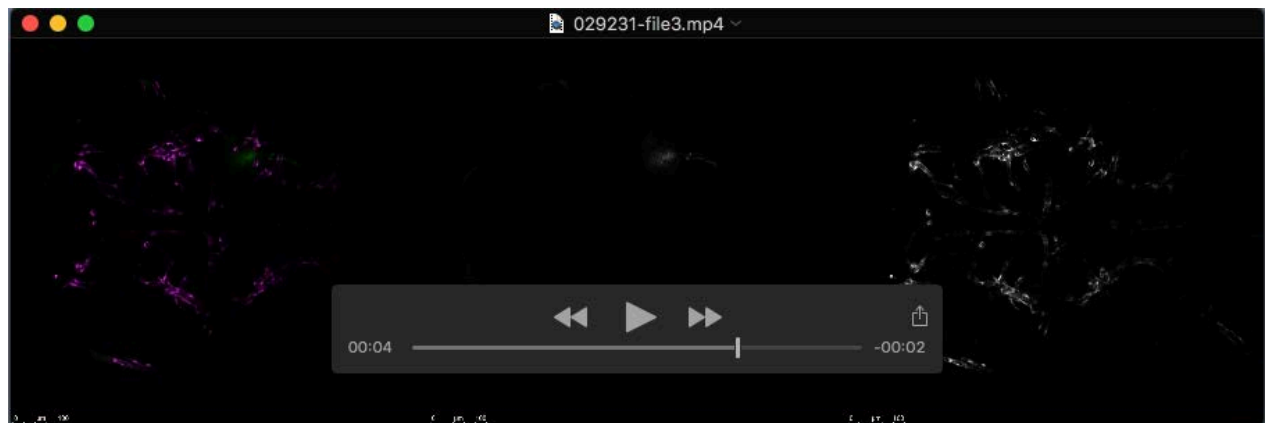
(C and D) Confocal image of WIHC processed SINV339-mCherry (C) and CHIKV-115 (D) infected *fli1a:eGFP* larvae, (C' and D') maximal projection. Scale bars: 50 μ m. (C'-C''') SINV-infected cells in magenta; vasculature in green. (C'') merge of magenta (infected cells) and green (endothelium)

fluorescence from a single focal plane; (C''') magenta (infected cells) fluorescence; (C''''') green (endothelium) fluorescence. Yellow arrowheads: infected areas close to but not part of the vasculature. (D'') merge of magenta (infected cells) and green (endothelium) fluorescence from a single focal plane; (B''') magenta (infected cells) fluorescence; (B''''') green (endothelium) fluorescence. Yellow arrowheads: areas of colocalization.

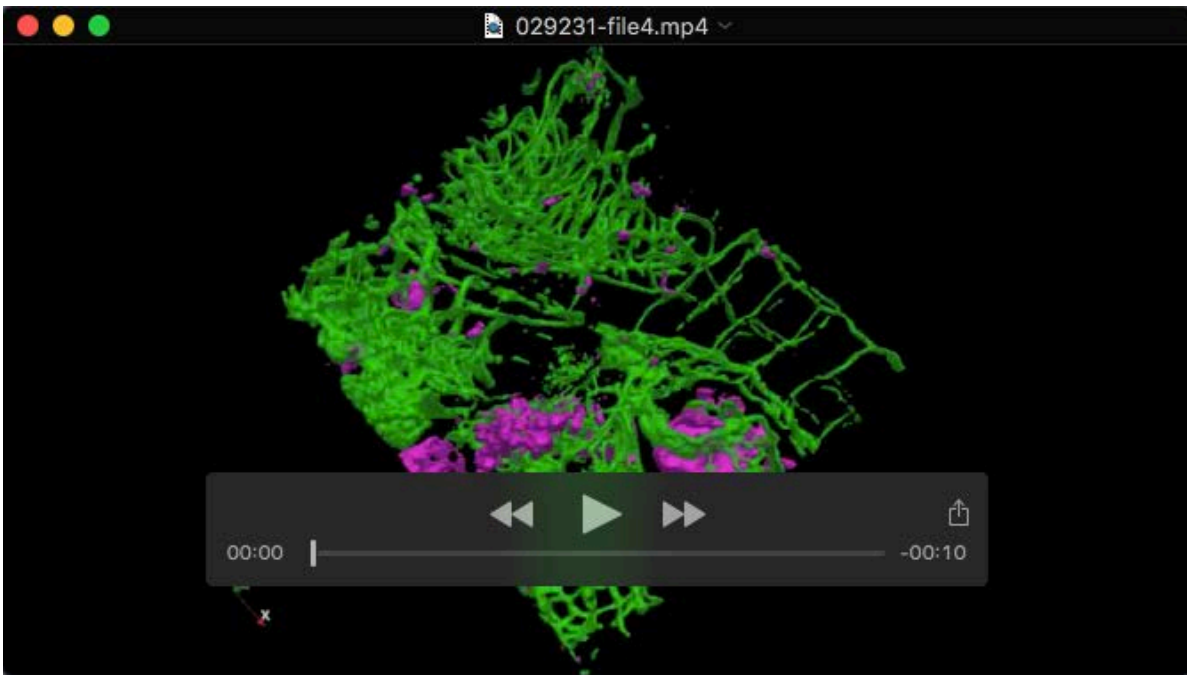
Supplementary movies



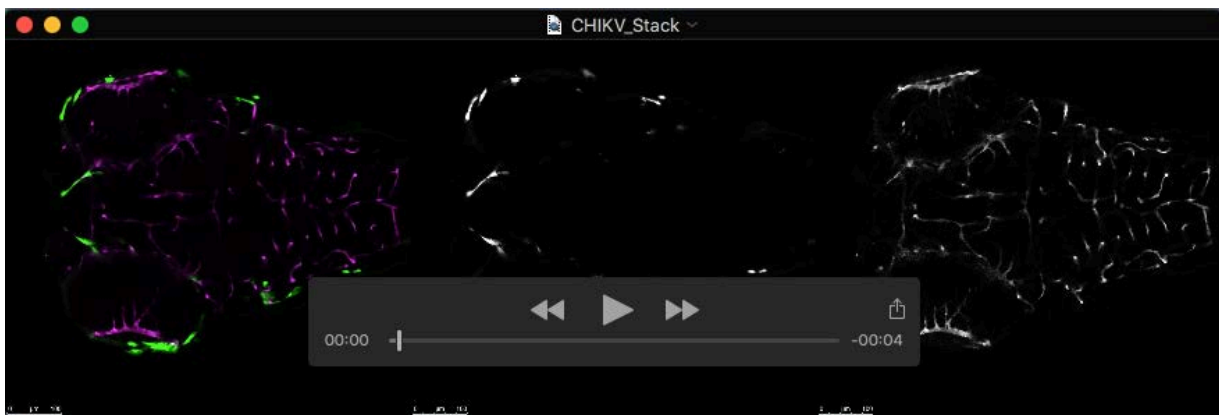
Movie 1. Movement through Z-stacks of *fli:G/U:RFP* SINV-infected larva, at 2 dpi. Related to Fig. 3B.



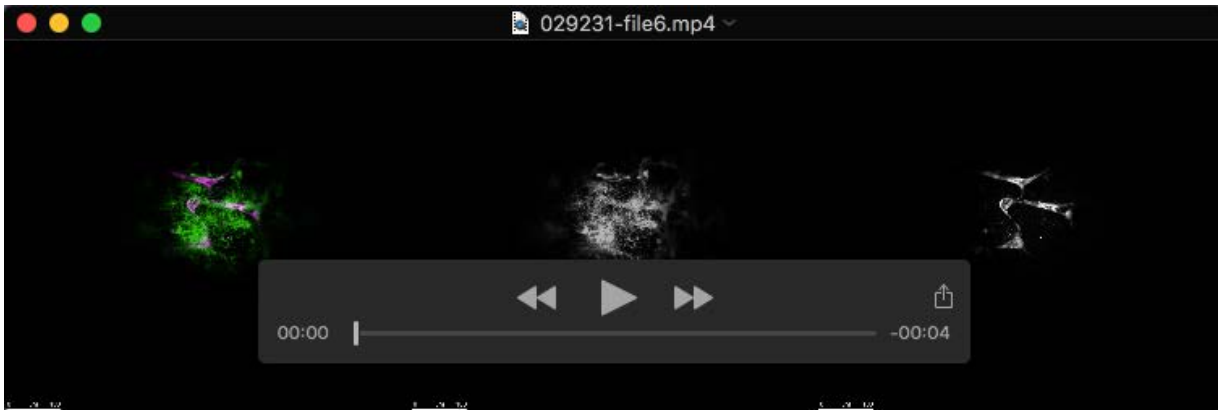
Movie 2. Movement through Z-stacks of the same *fli:G/U:RFP* SINV-infected larva, at 1 dpi. Related to Fig. 3A.



Movie 3. 3D rendering of *fli:G/U:RFP* SINV-infected larva. Related to Fig. S1D.



Movie 4. Movement through Z-stacks of *fli:G/U:RFP* CHIKV-infected larva, at 1 dpi. Related to Fig. 3D.



Movie 5. Movement through Z-stacks of *fli:G/U:RFP* IHNV-infected larva, at 2 dpi. Related to Fig. 3F.