

Supplementary Movie Legends:

Movie S1. 4-D reconstructed video of control embryonic zebrafish heart at 5 dpf. Video represents a loop of one cardiac cycle of a beating heart from a *Tg(fli1a:GFP)* zebrafish embryo. Scale bar, 50 μm .

Movie S2. 4-D reconstructed video of BDM-treated embryonic zebrafish heart at 5 dpf. Video represents a loop of one cardiac cycle of a beating heart from a *Tg(fli1a:GFP)* zebrafish embryo that was treated with BDM (10 mM) starting at 24 hpf. Scale bar, 50 μm .

Movie S3. 4-D reconstructed video of isoproterenol-treated embryonic zebrafish heart at 5 dpf. Video represents a loop of one cardiac cycle of a beating heart from a *Tg(fli1a:GFP)* zebrafish embryo that was treated with isoproterenol (100 μM) starting at 24 hpf. Scale bar, 50 μm .

Movie S4. 4-D reconstructed video of the heart of *NICD* mRNA-injected embryo at 5 dpf. Video represents a loop of one cardiac cycle of a beating heart from a *Tg(fli1a:GFP)* zebrafish embryo that was micro-injected with *NICD* mRNA at the one-to-two cell stage. Scale bar, 50 μm .