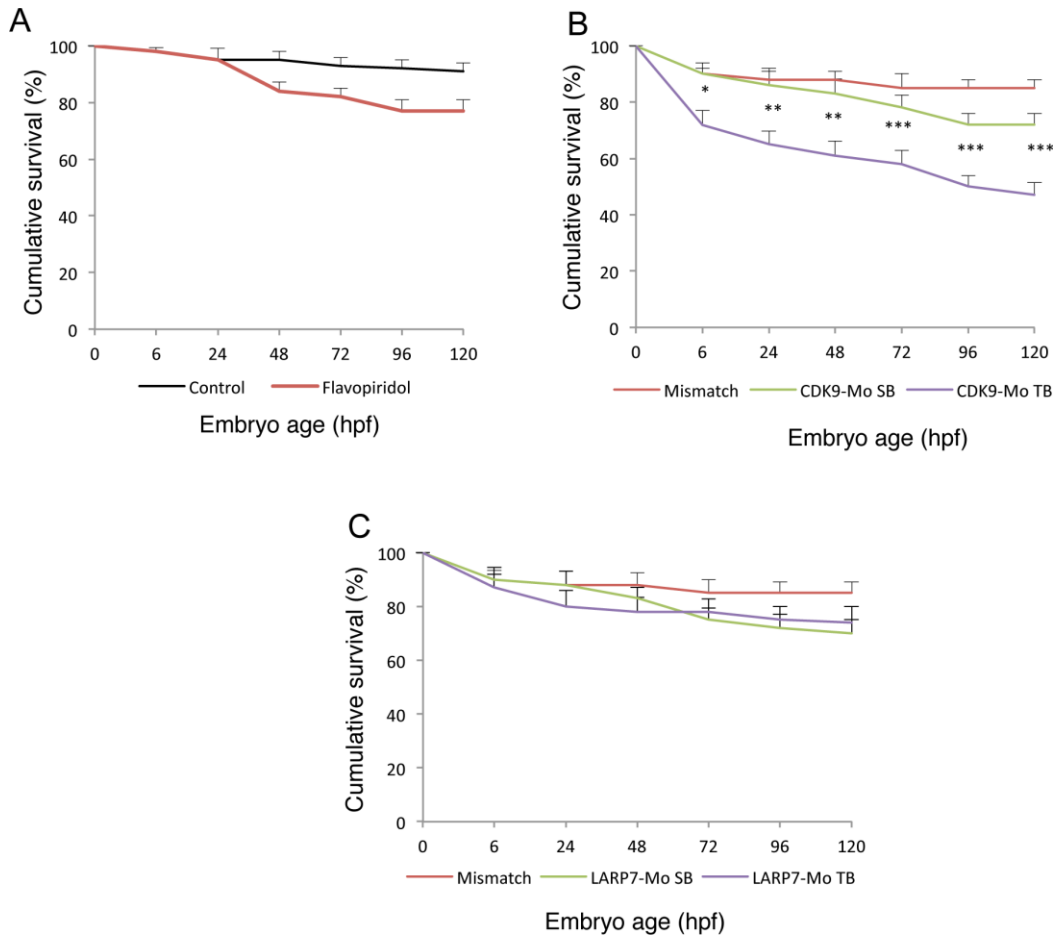
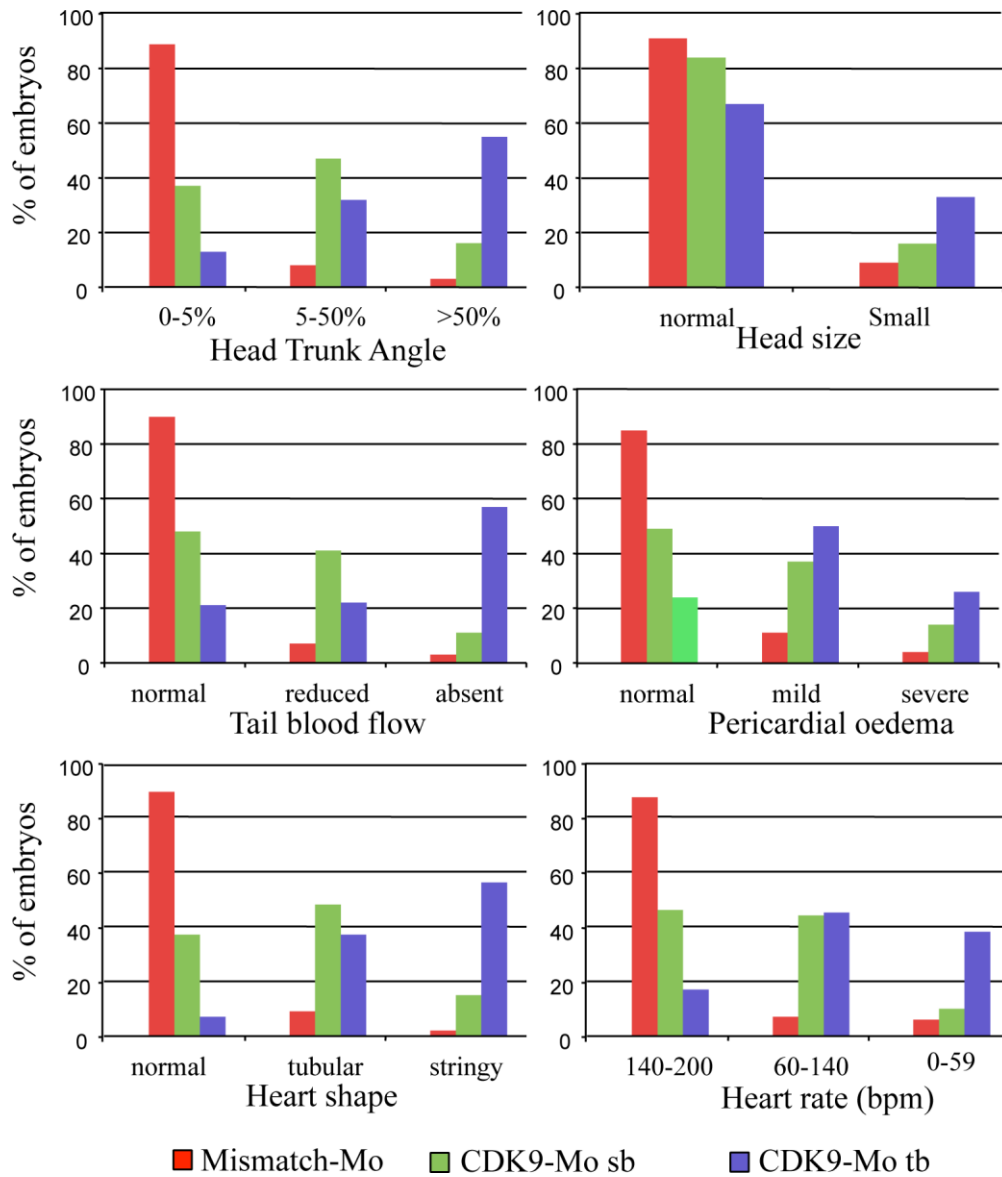


## SUPPLEMENTAL FIGURES



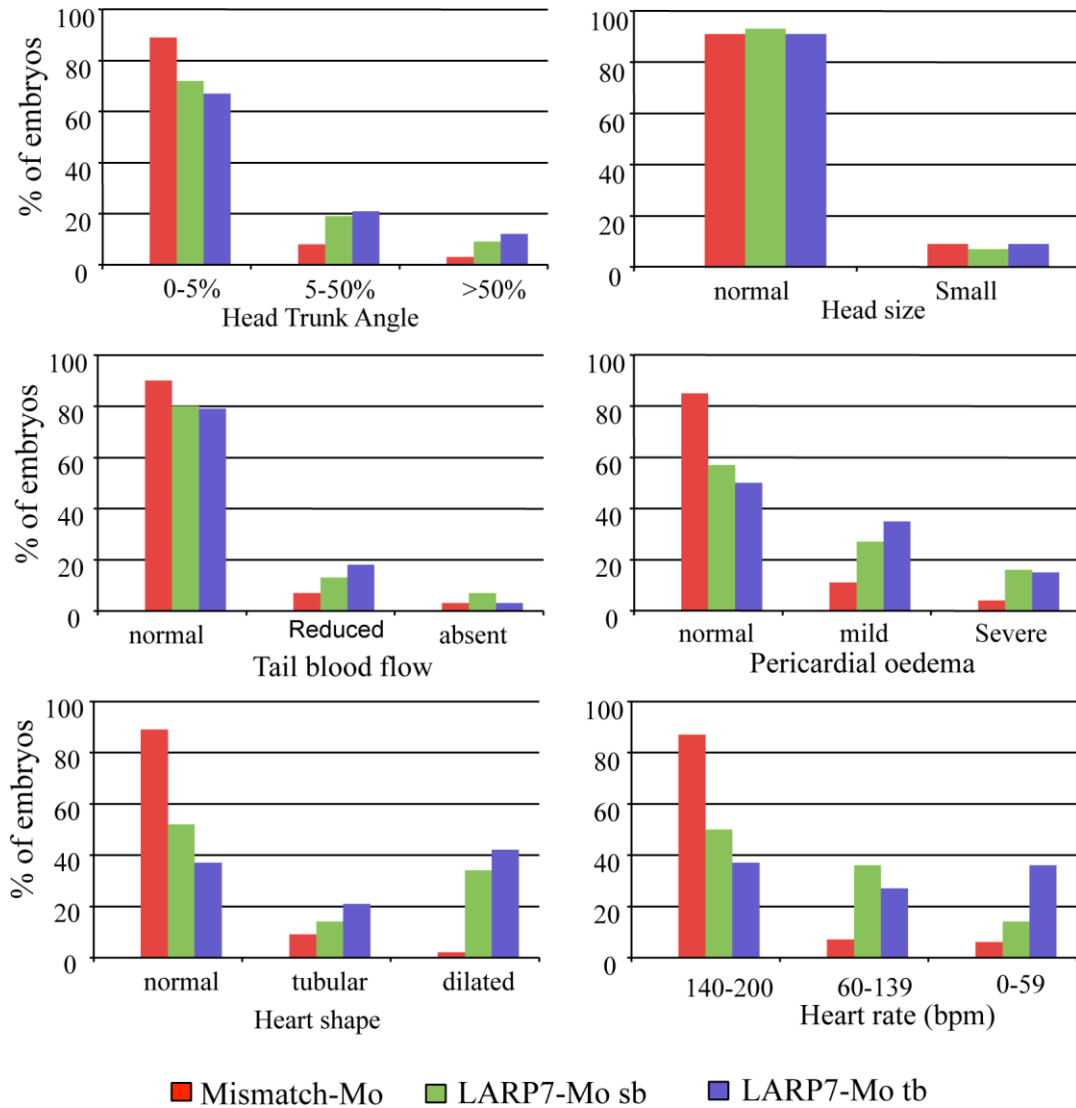
**Figure S1 - Survival curve following CDK9 and LARP7 modulation.**

Survival curve of zebrafish embryos following exposure to Flavopiridol (A), injection of CDK9-Mo splice and translation blocking (B) and injection of LARP7-Mo splice and translation blocking (C). N=4 experiments, N=300 embryos were included in each group.

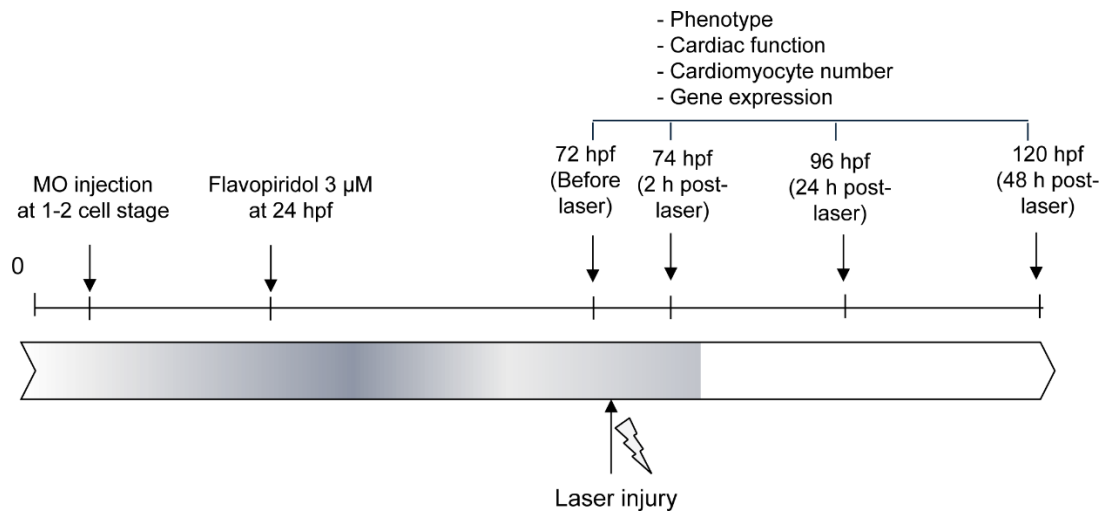


**Figure S2 - Effects of CDK9-morpholino on morphological and cardiovascular phenotype.**

Zebrafish whole embryos (72 hpf) and cardiac phenotype following CDK9 morpholino treatment. Each diagram report on the X axis a specific trait, which phenotypic severity increase from left to right. On the Y axis is reported the percentage of embryos retaining that phenotype. The first two diagrams with body axis and head shape explain the embryo body phenotype while lower diagrams with tail blood flow, pericardial edema, heart shape and heart rate are related to the cardiac phenotype. N=4 experiments, N=100 embryos were included in each group.



**Figure S3 - Effects of LARP7-Mo on morphological and cardiovascular phenotype.** Zebrafish whole embryos (72 hpf) and cardiac phenotype following LARP7 morpholino treatment. Each diagram report on the X axis a specific trait, which phenotypic severity increase from left to right. On the Y axis is reported the percentage of embryos retaining that phenotype. The first two diagrams, with body axis and head shape, explain the embryo body phenotype while lower diagrams, with tail blood flow, pericardial edema, heart shape and heart rate, are related to the cardiac phenotype. N=3 experiments, N=100 embryos were included in each group.



**Figure S4– Protocol to assess the effects of CDK9 modulation on the response of the embryonic ventricle to laser injury.**



**Movie S1- Laser pulse injury of the zebrafish embryonic heart ventricle.**

A single laser pulse, using the XYClone Laser Ablator, to the ventricle of a zebrafish embryo (72 hpf) results in instantaneous cardiac injury associated with marked bradycardia and gradual recovery of cardiac rhythm over the next few minutes. A laser burn-mark is clearly seen in the wall of the ventricle. The isotherm rings is a tool included in the software associated with the XYClone laser ablator (Hamilton-Thorne) that helps the user prevent potential harmful effects during the injury.