



**Supplementary FIG. 3.** Response of immature cardiac constructs to simulated ischemia-reperfusion. Constructs were tested 3 days after seeding, after development of spontaneous contractions and before the opportunity to mature in the bioreactor. **(A-B)** Lactate dehydrogenase (LDH) and adenylate kinase (AK) release were used to assess cell membrane permeability and death. **(C)** Cell viability was determined by measuring cell activity using RealTime Glo assay. **(D)** Mitochondrial membrane permeability was determined by comparing emission of JC-1 dye at 528 nm and 590 nm, where the increased ratio correlates with higher permeability. Data represents aggregated results from 3 independent experiments and are depicted as individual data points with mean  $\pm$  SD. Statistical analysis was done using unpaired t-test, \* indicates significant difference between groups,  $p < 0.05$