

Supplementary Materials

The Effect of Hypothermia and Osmotic Shock on the Electrocardiogram of Adult Zebrafish

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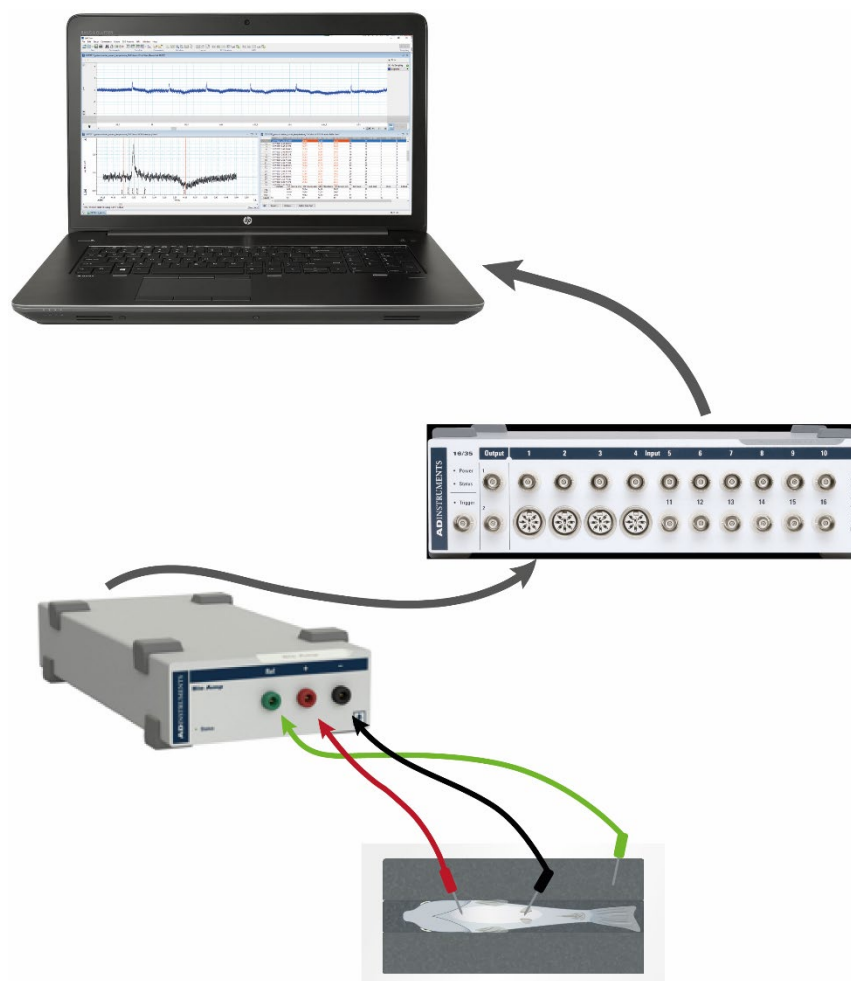


Figure S1. ECG recording setup. Anesthetized zebrafish were placed ventral side up in a slit sponge. Two 29-gauge stainless steel micro-electrodes (MLA1213, AD Instruments) were positioned along the ventral midline as shown. The reference electrode (green electrode) was either placed in the bath or out, depending of what created the clearest signal. ECG signals were amplified and digitized using a BioAmp (FE231, AD Instruments) and a PowerLab (16/35, AD Instruments). Data were subsequently processed using LabChart Pro v8 Software and the ECG analysis module (AD Instrument). Recordings were made in the range 0–10 mV. A 50 Hz notch digital filter was then applied and a sliding averaging algorithm provided by the software was used to smooth the traces.

Table S1. Osmotic shock P and T wave detection. Proportion of ECG complexes presenting P/T waves during a 1-minute recording. Data are presented as mean (SEM). The sample size (n) is indicated in brackets for each parameter in the table. NC: not calculated.

Configuration Condition	P wave (%)	T wave (%)
Unexposed heart		
Tyrode	94.1% (1.9) (10)	45.6% (14.7) (5)
Isosmotic	78.4% (8.7) (9)	56.4% (18.0) (5)
Hyposmotic	76.2% (10.5) (9)	40.4% (16.2) (5)
Wash isosmotic	79.0% (10.0) (7)	26.7% (17.4) (3)
Hyperosmotic	79.0% (8.8) (8)	39.8% (17.9) (4)
Exposed heart		
Tyrode	91.2% (8.5) (10)	90.8% (3.2) (10)
Isosmotic	98.3% (0.7) (9)	86.9% (4.4) (8)
Hyposmotic	98.8% (0.5) (9)	84.0% (7.2) (6)
Wash isosmotic	98.2% (1.2) (9)	82.2% (6.5) (6)
Hyperosmotic	99.7% (0.2) (9)	92.6% (2.5) (5)
Extracted heart		
Tyrode	NC (NC) (0)	60.1% (15.3) (7)
Isosmotic	NC (NC) (0)	73.5% (10.5) (8)
Hyposmotic	NC (NC) (0)	86.6% (4.0) (7)
Wash isosmotic	NC (NC) (0)	77.1% (11.6) (8)
Hyperosmotic	NC (NC) (0)	92.1% (5.0) (7)

Table S2. Hypothermia P and T wave detection. Proportion of ECG complexes presenting P/T waves during a 1-minute recording. Data are presented as mean (SEM). The sample size (n) is indicated in brackets for each parameter in the table. NC: not calculated.

Configuration Condition	P wave (%)	T wave (%)
Unexposed heart		
Warm (control)	86.4% (6.7) (10)	62.6% (8.8) (5)
Cold	59.4% (10.5) (10)	NC (NC) (1)
Warm (washout)	68.2% (10.6) (9)	17.3% (0.7) (3)
Exposed heart		
Warm (control)	75.4% (32.8) (8)	96.5% (1.6) (6)
Cold	80.7% (7.9) (9)	71.9% (7.3) (9)
Warm (washout)	91.8% (3.1) (9)	82.5% (5.9) (8)
Extracted heart		
Warm (control)	62.0% (14.9) (7)	61.3% (9.6) (8)
Cold	85.0% (10.2) (4)	68.2% (13.4) (6)
Warm (washout)	59.5% (22.5) (4)	58.4% (11.2) (7)