**Materials List for:**

# Monitoring Heart Function in Larval *Drosophila melanogaster* for Physiological Studies

Ann S. Cooper, Kylah E. Rymond, Matthew A. Ward, Easter L. Bocook, Robin L. Cooper
Department of Biology, University of Kentucky, Lexington

Correspondence to: Robin L. Cooper at RLCOOP1@email.uky.edu

URL: http://www.jove.com/video/1596/

## Materials

1. Dissection tools: Fine #5 tweezers and fine scissors (all obtained from Fine Science Tools (USA), Inc., 373-G Vintage Park Drive, Foster City, CA 94404-1139)
2. Dissecting microscope with zoom function for dissection and counting heart rate. For focal stimulation of the heart this is needed as well.
3. For extracellular and intracellular recordings a compound microscope with upright objectives (4 x and 20X) is used.

   Standard intracellular amplifier and A/D board for on line recording to a computer. Electrical signals are recorded on line to a PowerLab/4s interface (ADInstruments, Australia). We use standard software from ADInstruments named Chart or Scope.
4. Chemicals: All saline chemicals are obtained from Sigma chemical company (St. Louis, MO).
5. For intracellular recordings we use glass capillary tubing (catalogue # 30-31-0 from FHC, Brunswick, ME, 04011, USA) and for focal macropatch recording and stimulating electrodes we use Kimax-51, Kimble Products Art. No. 34502, ID 0.8-1.1mm, length 100mm. The intracellular electrode should have a resistance of 20 to 30 mOhm. The macropatch electrode is constructed by breaking off the tip of the glass after a fine tip was made from an electrode puller. The broken off tip needs to be a clean perpendicular break about 20μM in diameter. The tip is then heat polished to about 10μM inner diameter for the focal extracellular recording. For the stimulating electrode to drive the heart we use a final tip of about 20-50 μM in diameter. The shaft of the electrode is run over a heating element to cause it to bend about 45 degrees with a gradual bend. This produces a flat or perpendicular electrode lumen over the heart tube as the angle with the micro-manipulator will produce about another 45 degrees to the preparation.

Copyright © 2009 Creative Commons Attribution-NonCommercial License