HEART TISSUE SECTIONING

PROTOCOL FOR CUTTING SLICES OF HEART TISSUE

Key to reading the protocol:

√ Rationale for procedural step

♠ Tips & Tricks

1. Deeply anesthetize animal with pentobarbital, 70 mg/kg.
    - √ Note that you can perfuse the animal in a variety of ways, including gravity-feed, pump, or push-syringe.
2. Remove hearts by dissection and perfuse in Langendorff-mode with bicarbonate-buffered solution.
    - √ Note that fat accumulation at the epicardial surface increases with animal age. Fat tissue is difficult to cut and can blunt the blade, so we recommend careful manual removal of fat tissue before slicing.
3. Load dye via the coronary circulation, apply by injecting into the aortic cannula. Use 22 µl of a solution containing the voltage-sensitive dye di-4-ANBDQPQ and then Pluronic F-127 (2 µl of a 20% stock solution in DMSO. Add over a 4 to 5 minute time period.
4. After dye loading, perfuse hearts at room temperature with BDM-containing HEPES-buffered solution.
5. Select a section of the heart that you would like to take cut for slices.
6. Glue the tissue sample onto the Compresstome® specimen syringe.
7. Draw the syringe downward to bring the brain tissue core sample into the syringe.
8. Fill the syringe with 4% agarose (Sigma A-0701, low gelling point, incubated at ~37°C).
    - √ Order a Starter Kit or additional agarose or blades directly from our website at http://www.precisionary.com/starter-kit !
9. Cool the entire contents of the specimen syringe with the chilling block. The heart tissue is now embedded in agarose. The agarose will solidify enough for stable sectioning.

10. Load the specimen syringe onto the Compresstome® slicer.
11. The protocol is complete for preparing the heart specimen for sectioning. Proceed from here with normal Compresstome® sectioning procedures.

References

*** Uses the Compresstome® for successful heart tissue slices.**

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