

Protocol for Epithelial Tissue Homogenization in the Bullet Blender™

The protocol described in this document is for the use of the Bullet Blender™ for the homogenization of epithelial tissue (from a variety of animals). Note that the time and speed settings may differ due to the variation in consistency/texture of heart tissue from species to species. This protocol does not specify a particular buffer-- you may choose which is most appropriate for your downstream application (nucleic acid isolation, protein extraction, etc.).

Materials Required: epithelial tissue, saline, Bullet Blender™, homogenization buffer, pipettor, microcentrifuge tubes, and [0.5mm zirconium silicate beads \(part number ZSB05\)](#).

Instructions

1. Cut tissue into appropriately sized pieces for analysis (50mg-300mg) and place into a microcentrifuge tube. If possible, use long thin tissue pieces.
2. **OPTIONAL:** Wash tissue with ~1mL PBS. Aspirate. **NOTE:** This step removes external contaminants (blood, etc.).
3. Add zirconium silicate beads (0.5mm) to the tube. Use a mass of beads equal to your mass of tissue.
4. Add 0.1mL to 0.6mL buffer (2 volumes of buffer for every volume of cells).
5. Close the microcentrifuge tubes.
6. Place tubes into the Bullet Blender™.
7. Set controls for **SPEED 8** and **TIME 5** minutes. Press **Start**.
8. After the run, remove tubes from the instrument.
9. Visually inspect samples. If homogenization is unsatisfactory, run for another two minutes at the **SPEED 10**.
10. Proceed with your downstream application.

SAFETY NOTE!!!

When using a centrifuge to separate your homogenate from the debris and beads, make sure your tubes are balanced.



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