

Protocol for Jejunum or Stomach Tissue Homogenization in the Bullet Blender™

The protocol described in this document is for the use of the Bullet Blender™ for the homogenization of jejunum or stomach / gastric tissue. Note that the time and speed settings, and digestion parameters may differ due to the variation in consistency/texture of 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: tissue, cell culture hood, Bullet Blender™, homogenization buffer, microcentrifuge tubes, pipettor, and [0.5mm zirconium silicate beads \(part number ZSB05\)](#).

Instructions

1. Cut tissue into appropriately sized pieces for analysis (100mg) and place into a microcentrifuge tube. **NOTE:** Try to remove pieces of connective tissue as they do not homogenize well.
2. **OPTIONAL:** Wash tissue 3x with ~1mL PBS. Aspirate. **NOTE:** This step removes any external contaminants (blood, undigested food, etc.).
3. Add glass beads (0.5mm) to the tube. Use a mass of beads equal to your mass of tissue. One scoop of beads ≈ 77mg.
4. Add about 0.3mL buffer (2 volumes of buffer for every volume of cells).
5. Close the centrifuge tubes.
6. Place tubes into the Bullet Blender™.
7. Set controls for **SPEED 8** and **TIME 2** 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.