NEXT ADVANCE

Bullet Blender Protocol

Femur

- Extract molecules (DNA, RNA, protein, chemicals)
- Wet final product
- Sample sizes: 100 to 1000 mg.

Notes on the protocol: 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.).
User note: This protocol was developed using mouse tissue. Homogenization times, speeds, and beads may need to be adjusted if you are working with material from other species, especially larger animals.

Materials Required

One of these Bullet Blenders

- **Bullet Blender 5E** (BBY5E)
- **Bullet Blender 5 Gold** (BB5E-AU)

Reagents

None required

Bead choices

- **3.2 mm stainless steel beads** (SSB32) Use a volume of beads equivalent to 1 x the volume of the sample
- **3.5 mm stainless steel UFO beads** (SSUFO35) Use a volume of beads equivalent to 1 x the volume of the sample

Procedure

1. Cut the sample into appropriately sized pieces. For larger samples, we recommend cutting the material into long, thin strips for faster homogenization.
2. Wash the sample 3x with 1/2 tube volume of PBS to remove surface contaminants.
3. Place the sample in the tube with the beads.
4. Add a volume of buffer that is twice the volume of the sample. Sample volume may be approximated by sample weight. E.g., for a 100 mg. sample, add 0.2 ml. buffer.
5. Close the tubes tightly and place them in the Bullet Blender.
6. Set the controls for Speed 16 and Time 4. Press Start.
7. After the run, remove the tubes from the instrument and visually inspect the samples. If homogenization is incomplete, repeat the homogenization step at a higher speed.
8. Proceed with your downstream application.