Protocol for Ginger Rhizome Homogenization in the Bullet Blender®

The protocol described in this document is for the use of the Bullet Blender® for the homogenization of ginger rhizome (*Zingiber officinale*). 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: ginger rhizome, Bullet Blender®, homogenization buffer, pipettor, microcentrifuge tubes, and 0.9-2.0mm stainless steel bead blend or 1.0mm zirconium oxide beads (SSB14B or ZROB10)

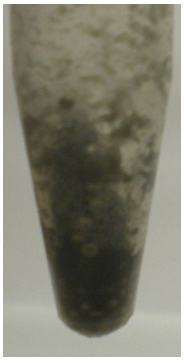
Instructions

1. **OPTIONAL:** Wash ginger 3x with ~1mL PBS or water to remove soil and other surface debris.
2. Cut ginger into long, thin slices of 200mg or less and place each slice into a microcentrifuge tube.
3. Add a volume of beads equal to the mass of tissue. **NOTE:** 100mg ≅ 100µL.
4. Close the microcentrifuge tubes and place them into the Bullet Blender®. **NOTE:** There should be no buffer in the tubes at this point.
5. Set controls for **SPEED 8** and **TIME 4**.
6. Remove the samples from the Bullet Blender. The ginger should be coarsely pulverized. If not, run for another three minutes at speed 10.
7. Add 2 volumes of buffer to the tube for every mass of sample (ex. for 100 mg ginger, add 200µL buffer)
8. Close the microcentrifuge tubes and place them back into the Bullet Blender™.
9. Set controls for **SPEED 8** and **TIME 3** minutes. Press **Start**.
10. After the run, remove tubes from the instrument.
11. Visually inspect samples. If homogenization is unsatisfactory, run for another three minutes at speed 10.
12. Proceed with your downstream application.

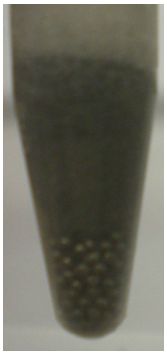
SAFETY NOTE!!!

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

Before



Pulverized



After

Date 05/06/2011