

# 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.).

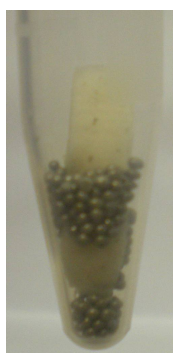
**Materials Required:** ginger rhizome, Bullet Blender®, homogenization buffer, pipettor, microcentrifuge tubes, and 0.9-2.0mm stainless steel bead blend or 1.0mm zirconium oxide beads (SSB14B or ZROB10)

## Instructions

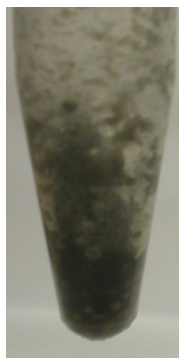
- 1. OPTIONAL:** Wash ginger 3x with ~1mL PBS or water to remove soil and other surface debris.
- Cut ginger into long, thin slices of 200mg or less and place each slice into a microcentrifuge tube.
- Add a volume of beads equal to the mass of tissue. **NOTE:** 100mg  $\cong$  100 $\mu$ L.
- Close the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

## SAFETY NOTE!!!

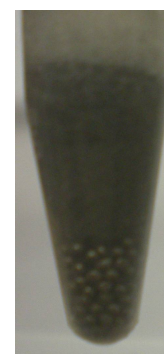
**When using a centrifuge to separate your homogenate from the debris and beads, make sure your tubes are balanced.**



**Before**



**Pulverized**



**After**