

# Protocol for Malanga Root Tuber Homogenization in the Bullet Blender®

The protocol described in this document is for the use of the Bullet Blender® for the homogenization of malanga (*Xanthosoma sagittifolium*) root tubers. 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:** Malanga tuber, 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

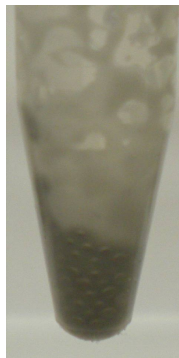
- 1. OPTIONAL:** Wash malanga 3x with ~1mL PBS to remove soil and other surface contaminants and debris.
- Cut malanga into long, thin slices of 200mg or less and place each slice into a microcentrifuge tube.
- Add a volume of beads equal to the mass of the malanga. **NOTE:** 100mg  $\approx$  100 $\mu$ 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 malanga should be finely pulverized into a thick paste. 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 malanga 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**

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