

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

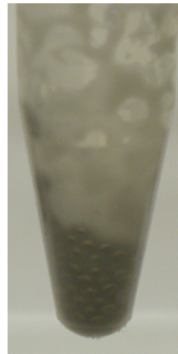
- 1. OPTIONAL:** Wash malanga 3x with ~1mL PBS to remove soil and other surface contaminants and debris.
- Cut malanga into long, thin slices of 200mg or less and place each slice into a microcentrifuge tube.
- Add a mass of the stainless steel bead blend equal to 3x the mass of malanga, or a mass of 1.0mm zirconium oxide beads equal to 2x the mass of malanga.
- 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 200µL 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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