Date 11/23/2009

Protocol for Horseradish Root Homogenization in the Bullet Blender™

The protocol described in this document is for the use of the Bullet Blender™ for the homogenization of horseradish (*Armoracia rusticana*) root. 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: Horseradish root, Bullet Blender™, homogenization buffer, pipettor, microcentrifuge tubes, and 0.9-2.0mm stainless steel bead blend (part no. SSB14B)

Instructions

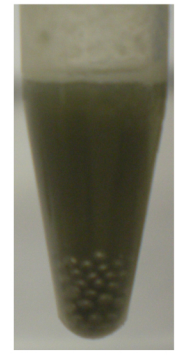
1. **OPTIONAL:** Wash horseradish 3x with ~1mL PBS to remove soil and other surfa contaminants and debris. ce
2. Cut horseradish into long, thin slices of 200mg or less and place each slice into microcentrifuge tube. a
3. Add a mass of the stainless steel bead blend equal to 3x the mass of t horseradish. ıe
4. Close the microcentrifuge tubes and place them into the Bullet Blender™. **NOT** There should be no buffer in the tubes at this point. **E:**
5. Set controls for **SPEED 10** and **TIME 5**. Press **Start**.
6. Remove the samples from the Bullet Blender. The horseradish should be fine pulverized. If not, run for another three minutes at speed 10. ly
7. Add 2 volumes of buffer to the tube for every mass of sample (ex. for 100 m horseradish add 200µL buffer). ıg
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 thr minutes at speed 10. ee
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

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