

# Protocol: *Apis mellifera* (Honeybee) Homogenization in the Bullet Blender™

The protocol described in this document is for the use of the Bullet Blender™ for the homogenization of *Apis mellifera* thoraces, although should be suitable for whole bees or other honeybee sections or tissues as well. This protocol was created for the extraction of DNA, and does specify a particular buffer, however you may modify it in any way necessary to tailor it to your needs (RNA extraction, protein purification, etc.).

**Materials Required:** *Apis mellifera*, Bullet Blender™, homogenization buffer, pipettor, microcentrifuge tubes, and [1.0mm glass beads \(part number GB10\)](#).

## Instructions

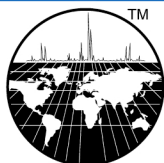
1. Wash *A. mellifera* in PBS or other buffer, as appropriate, to remove food, surface bacteria, and other contaminants.
2. Isolate the thorax using a scalpel and forceps.
3. Place each thorax, individually, into a microcentrifuge tube.
4. Add 100mg of 1.0mm glass beads to the tube. One scoop  $\approx$  68mg.
5. Add 600 $\mu$ l of lysis buffer (100 mM Tris, pH 8.0, 10 mM EDTA, pH 8.0, and 1% SDS).
6. Close the microcentrifuge tubes.
7. Place tubes into the Bullet Blender™.
8. Set controls for **SPEED 8** and **TIME 3** minutes.
9. Remove tubes from the instrument.
10. Visually inspect samples, if homogenization is unsatisfactory, run for another two minutes at the **SPEED 10**.
11. 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.**

## Reference:

Bourgeois, A.L., Rinderer, T.E. [Genetic Characterization of Russian Honey Bee Stock Selected for Improved Resistance to \*Varroa destructor\*](#). J. Econ. Entomol. 102(3):1233-1238. 2009



**Scientific Instrument Services, Inc.**™

1027 Old York Rd. Ringoes, NJ 08551-1039

Phone: (908)788-5550

www.sisweb.com

Fax: (908) 806-6631