

Glyphosate in Honey Sample Preparation

1. Intended Use

For the detection of Glyphosate in honey.

2. Sensitivity

10 ppb in matrix

3. Materials and Reagents Required

Analytical balance

Microcentrifuge tubes

4 mL glass vials with Teflon-lined caps

Disposable pipettes

Micropipettes with disposable plastic tips

Vortex mixer

Timer

Plate shaker or Micro-well plate holder with insert retainer for vortex mixer

Rotator and/or shaker

1 N Hydrochloric Acid (HCl)

ABRAXIS® Glyphosate Sample Diluent (PN 500082)

ABRAXIS® Glyphosate Plate ELISA Kit (PN 500205)

50°C water bath or equivalent (optional)

4. Notes and Precautions

This procedure is intended for use with honey (light and dark). Other matrices should be thoroughly validated before use with this procedure.

- Hydrochloric Acid must be handled with care. Wear appropriate protective clothing (gloves, glasses, etc.). Avoid contact with skin and mucous membranes. If contact occurs, wash with copious amounts of water and seek appropriate medical attention.
- Due to the viscous nature of the prepared samples, the microtiter plate should be placed on a plate shaker or vortex mixer fitted with a micro-well plate holder adapter for the incubations with the antibody and conjugate solutions. This will allow for the appropriate mixing of all reagents in the microtiter wells.

5. Procedure

5.1 Weigh 0.5 g of sample into an appropriately labeled microcentrifuge tube.

5.2 Add 0.5 mL of 1 N HCl.

5.3 Vortex for 2 minutes.

5.4 If necessary, place samples in rotator or shaker for 5-10 minutes or in 50°C water bath to facilitate the dissolution of honey in 1N HCL.

5.5 Add 3.3 mL of ABRAXIS® Glyphosate Diluent to a clean, appropriately labeled 4 mL glass vial. Add 50 µL of the acid-treated sample (from step 5.2) to the ABRAXIS® Glyphosate Diluent in the vial (1:67 sample dilution). Vortex.

5.6 This will then be analyzed as sample, see *Derivatization of Standards, Control, and Samples* in the Test Preparation section of the ABRAXIS® Glyphosate Plate ELISA Kit user's guide.

6. Evaluation of Results

The Glyphosate concentration in the samples is determined by multiplying the ELISA results by a factor of 133.3. Samples showing a concentration lower than standard 1 (0.075 ppb) should be reported as containing <10

ppb of Glyphosate. Samples showing a higher concentration than standard 5 (4.0 ppb) can be reported as containing > 533.2 ppb of Glyphosate or diluted further and re-analyzed to obtain an accurate quantitative result.

7. Performance Data

Recovery

Honey samples were spiked with various amounts of Glyphosate, prepared as described above, and the derivatized and assayed using the ABRAXIS® Glyphosate Plate ELISA. Average recovery was 92.4%.

8. For ordering or technical assistance contact:

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