

## Glyphosate in Cereal Sample Preparation

### 1. Intended Use

For the detection of Glyphosate in cereal products.

### 2. Sensitivity

7.5 ppb in matrix

### 3. Materials and Reagents Required

Analytical Balance

Microcentrifuge tubes, 1.5 mL or 2.0 mL

Microcentrifuge

Micropipettes with disposable plastic tips

Glass vials – 4 mL and 20 mL with Teflon-lined caps

Deionized water

Serological pipettes, 5 mL or 10 mL

Rotator and/or shaker

Vortex mixer

ABRAXIS<sup>®</sup> Glyphosate Sample Diluent (PN 500082)

ABRAXIS<sup>®</sup> Glyphosate Plate ELISA Kit (PN 500205)

### 4. Notes and Precautions

This procedure is intended for use with ground cereal products. Other matrices should be thoroughly validated before use with this procedure.

- Dried cereal should be placed in a Ziploc bag and broken down or smashed into smaller pieces using a hammer or related instrument. Please wear gloves to prevent any cross-contamination.
- Analysis should be performed with the ABRAXIS<sup>®</sup> Glyphosate Plate ELISA Kit as soon as possible after extraction. Samples should not sit more than one day in plastic microcentrifuge tubes before being diluted and analyzed.
- This procedure is for research use only. It is not intended for diagnostic procedures.

### 5. Procedure

5.1. Weigh 0.5 g of ground sample to 20 mL glass vial.

5.2. Add 10 mL of deionized water to sample (1:20 dilution).

5.3. Vortex vigorously for 10 – 15 seconds and put sample on rotator or shaker for 10 minutes.

5.4. Remove from rotator or shaker and allow the sample to settle for at least 2 minutes.

5.5. Transfer 1.5 to 2 mL of the supernatant to an appropriately labeled microcentrifuge vial.

5.6. Centrifuge for 5 minutes at ~8000 x g. Make sure the centrifuge is properly balanced.

5.7. Add 800  $\mu$ L of ABRAXIS<sup>®</sup> Glyphosate Sample Diluent to an appropriately labeled 4 mL glass vial. Add 200  $\mu$ L of the supernatant (from 5.6) to the ABRAXIS<sup>®</sup> Glyphosate Diluent in the vial (1:5 dilution). Vortex.

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

### 6. Evaluation of Results

The ELISA results must be multiplied by a factor of 100 to account for the necessary dilution. Samples showing a concentration lower than Standard 1 (0.075 ppb) should be reported as < 7.5 ppb of Glyphosate. Samples showing a higher concentration than Standard 5 (4.0 ppb) can be reported as > 400 ppb or diluted further and re-analyzed to

obtain an accurate quantitative result.

**7. For ordering or technical assistance contact:**

Gold Standard Diagnostics

795 Horsham Road

Horsham, PA 19044

WEB: [www.abraxiskits.com](http://www.abraxiskits.com)

Phone: (215) 357 3911

Fax: (215) 357 5232

Ordering: [info.abraxis@us.goldstandarddiagnostics.com](mailto:info.abraxis@us.goldstandarddiagnostics.com)

Technical Support: [support.abraxis@us.goldstandarddiagnostics.com](mailto:support.abraxis@us.goldstandarddiagnostics.com)

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