

Glyphosate in Ground Oats, Wheat, and Barley Sample Preparation

1. Intended Use

For the detection of Glyphosate in ground oats, wheat, and barley.

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® Glyphosate Sample Diluent (PN 500082)

ABRAXIS® Glyphosate Plate ELISA Kit (PN 500205)

4. Notes and Precautions

This procedure is intended for use with ground oats, wheat, and barley samples. Other matrices should be thoroughly validated before use with this procedure.

- Analysis should be performed with the ABRAXIS® 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 grain or flour samples to 20 mL glass vial.
- 5.2 Add 10 mL of deionized water to samples (1:20 dilution).
- 5.3 Vortex vigorously for 10 – 15 seconds and put samples 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 µL of ABRAXIS® Glyphosate Sample Diluent to an appropriately labeled 4 mL glass vial. Add 200 µL of the supernatant (from 5.6) to the ABRAXIS® Glyphosate Diluent in the vial (1:5 dilution). Vortex. 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.
- 5.8

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:

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