Glyphosate in Durum Wheat
Sample Preparation

1. Intended Use
For the detection of Glyphosate in ground durum wheat.

2. Sensitivity
7.5 ppb in matrix

3. Materials and Reagents Required
Analytical balance
Weighing boats
Spatula
Microcentrifuge tubes, 1.5 mL or 2.0 mL
Microcentrifuge capable of 10,000 rpm
Micropipettes with disposable plastic tips
Glass vials – 4 mL, 20 mL with Teflon-lined caps
Blender/food processor or equivalent
Deionized water
Serological pipettes, 5 mL or 10 mL
Rotator and/or shaker
Vortex mixer
ABRAXIS® Glyphosate Sample Diluent (PN500082)
ABRAXIS® Glyphosate Plate ELISA Kit (PN 500205)

4. Notes and Precautions
This procedure is intended for use with ground durum wheat. Other matrices should be thoroughly validated before use with this procedure.

- It is highly recommended for the samples to be ground before extraction to produce accurate results. Grind the samples with a blender, food processor, or equivalent. Proceed to step 5.1.
- To minimize the potential for sample contamination due to carryover from the preparation of highly contaminated samples, the blender jar should be thoroughly washed and dried between samples.
- Due to the viscous nature of the sample extracts, if possible, the microtiter plate should be placed on a plate shakeror vortex mixer fitted with a micro-well plate holder adapter for the incubations with the antibody and conjugate solutions (Steps F.2 and F.3 in the ABRAXIS® Glyphosate ELISA user's guide). This will allow for the appropriate mixing of all reagents in the microtiter wells.
- 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 sample into 20 mL glass vial.
5.2. Add 10 mL of deionized water to the sample (1:20 dilution).
5.3. Vortex vigorously for 10 – 15 seconds.
5.4. Place sample on rotator or shaker at 40 rpm or 50% speed for 10 minutes.
5.5. Remove from rotator or shaker and allow the sample to settle for at least 2 minutes.
5.6. Transfer 1.5 to 2 mL of the supernatant to an appropriately labeled microcentrifuge vial.
5.7. Centrifuge for 5 minutes at ~8000 x g. Make sure the centrifuge is properly balanced.
5.8. Add 800 µL of ABRAXIS® Glyphosate Sample Diluent to an appropriately labeled 4 mL glass vial. Add 200

µLof the supernatant (from 5.7) to the ABRAXIS® Glyphosate Diluent in the vial (1:5 dilution). Vortex.

5.9. This will then be analyzed as sample, see *Derivatization of Standards, Control and Samples* in the Test Preparation (Section D, Step 7) of the ABRAXIS® 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:

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