Glyphosate in Potatoes
Sample Preparation

1. Intended Use
For the detection of Glyphosate in potatoes.

2. Sensitivity
13.5 ppb in matrix

3. Materials and Reagents Required
Analytical balance
40 mL glass vials with Teflon-lined caps
Microcentrifuge tubes
4 mL glass vials with Teflon-lined caps
Disposable pipettes
Scoopula
Blender or food processor
Micropipettes with disposable plastic tips
Vortex mixer
Microcentrifuge
Timer
Plate shaker or Micro-well plate holder with insert retainer for vortex mixer
1 N Hydrochloric Acid (HCl)
ABRAXIS® Glyphosate Sample Diluent (PN 500082)
ABRAXIS® Glyphosate Plate ELISA Kit (PN 500205)

4. Notes and Precautions
This procedure is intended for use with potatoes. Other matrices should be thoroughly validated before use with thisprocedure.

- Samples must be homogenized before extraction. To prepare samples, place entire potato, including skin, into blender or food processor (large potatoes should be chopped into pieces before placing in blender or food processor). Blend thoroughly.
- 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 sample extracts, 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 allowfor the appropriate mixing of all reagents in the microtiter wells.

5. Procedure
5.1 Weigh 10 g of homogenized sample into an appropriately labeled 40 mL glass vial.
5.2 Add 10 mL of 1 N HCl. Vortex for 2 minutes.
5.3 Allow the sample to separate for 2 minutes.
5.4 Pipette approximately 1 mL of the supernatant into an appropriately labeled microcentrifuge tube.
5.5 Centrifuge at 6000 rpm for 5 minutes.
5.6 Pipette the supernatant into an appropriately labeled 4 mL glass vial with a Teflon-lined cap.
5.7 Add 3.96 mL of Glyphosate Diluent to a clean, appropriately labeled 4 mL glass vial. Add 40 µL of the supernatant (from step 5.6) to the ABRAXIS® Glyphosate Diluent in the vial (1:100 sample 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® 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 180 (based onsample preparation procedure and natural water content (80%) of potatoes). Sample extracts showing a concentration lower than standard 1 (0.075 ppb) should be reported as containing < 13.5 ppb of Glyphosate. Samples showing a higherconcentration than standard 5 (4.0 ppb) can be reported as containing > 720 ppb of Glyphosate or diluted further and re- analyzed to obtain an accurate quantitative result.

7. Performance Data

Recovery

Potato samples were spiked with various amounts of Glyphosate, prepared as described above, and then derivatized andassayed using the ABRAXIS® Glyphosate Plate ELISA. Average recovery was 123%.

8. For ordering or technical assistance contact:

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