Glyphosate in Rose Stems
Sample Preparation

1. Intended Use
For the detection of Glyphosate in the stems of roses.

2. Sensitivity
0.75 ppm in matrix

3. Materials and Reagents Required
Analytical balance
4 mL glass vials with Teflon-lined capsBlender
Deionized or distilled water
Graduated cylinder (100 mL)
Coffee filters
Sample containers (100 mL capacity)
Micropipettes with disposable plastic tips
Vortex mixer
Timer
Plate shaker or Micro-well plate holder with insert retainer for 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 the stems of roses. Other matrices should be thoroughly validated before use withthis procedure.

- To minimize the potential for sample contamination due to carryover from the preparation of highly contaminated samples,the blender jar should be thoroughly washed between samples.
- 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 Place 1 g of the bottom portion of the rose stem into the blender jar.
5.2 Add 100 mL of deionized or distilled water. Blend on highest speed for 2 minutes or until stem is thoroughly shredded.
5.3 Filter through coffee filter into an appropriately labeled 100 mL capacity sample container.
5.4 Add 3.96 mL of ABRAXIS® Glyphosate Diluent to a clean, appropriately labeled 4 mL glass vial. Add 40 µL of the filtered sample extract (from step 5.3) to the ABRAXIS® Glyphosate Diluent in the vial (1:100 sample dilution). Vortex.
5.5 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
If evaluating using the ABRAXIS® Glyphosate Plate ELISA Kit, the Glyphosate concentration in the samples is determined by multiplying the ELISA results by a factor of 10,000. Sample extracts showing a concentration lower than standard 1 (0.075ppb) should be reported as containing < 0.75 ppm of Glyphosate. Samples showing a higher concentration than standard 5 (4.0 ppb) can be reported as containing > 40 ppm of Glyphosate or diluted further and re-analyzed to obtain an accuratequantitative result.

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If evaluating using the ABRAXIS® Glyphosate Screen Plate ELISA Kit, sample results are determined by comparison of the sample absorbances to the absorbances of the standards. The intensity of the color which develops (absorbance) is inversely proportional to the concentration of Glyphosate present in the sample. Calculate the mean absorbance of each standard and each sample. Samples with higher absorbances than standard 1 (0.075 ppb) should be reported as containing < 0.75 ppm of Glyphosate. Samples with absorbances between standard 1 (0.075 ppb) and standard 2 (4.0 ppb) should be reported as containing between 0.75 ppm and 40 ppm of Glyphosate. Samples with absorbances lower than standard 2 (4.0 ppb) should be reported as containing > 40 ppm of Glyphosate. See table below for a summary of sample interpretation criteria:

Mean Absorbance	Sample Result
Sample greater than standard 1	< 0.75 ppm of Glyphosate present
Sample less than standard 1 and greater than standard 2	Between 0.75 ppm and 40 ppm of Glyphosate present
Sample less than standard 2	> 40 ppm of Glyphosate present

7. Performance Data

Recovery

Rose stem samples were spiked with various amounts of Glyphosate, prepared as described above, and then derivatizedand assayed using the ABRAXIS® Glyphosate Plate ELISA. Average recovery was 96%.

8. For ordering or technical assistance contact:

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