

Benzo (a) Pyrene [B(a)P] in Soil Sample Extraction

1. Intended Use

For the detection of Benzo (a) Pyrene in Soil. Other matrices should be thoroughly validated before use with this procedure.

2. Sensitivity

12.5 ppb in matrix

3. Materials and Reagents Required

Methanol (see Section 4, Notes and Precautions, below)

Deionized or distilled water

20 mL glass vials with Teflon-lined caps

Centrifuge (optional)

10 mL glass serological pipettes

Micropipettes (20-1000 μ L) with disposable tips

Whatman Uniprep filter device (optional)

Vortex mixer

Timer

ABRAXIS[®] Benzo (a) Pyrene ELISA Kit (PN 530039)

4. Notes and Precautions

To prepare the 37.5% methanol solution, add 75 mL of methanol to 125 mL of deionized or distilled water. Mix thoroughly.

5. Extraction Procedure

- 5.1 Weigh 1.0 gram of dry soil into an appropriately labeled 20 mL glass vial.
- 5.2 Using a 10 mL glass pipette, add 10 mL of methanol to the vial.
- 5.3 Shake vial vigorously for 2 minutes.
- 5.4 Allow the sample to separate for 20-30 minutes or centrifuge for 10 minutes at 2500 rpm. Alternately, the sample can be filtered using a Whatman Uniprep filter device (allow sample to separate for 10 minutes then filter a 2 mL aliquot of the supernatant).
- 5.5 Add 4 mL of 37.5% methanol to a clean appropriately labeled glass vial. Add 1 mL of the methanol extract (from step 5.4) to the 37.5% methanol. Vortex. This will then be analyzed as sample, see the ABRAXIS[®] Benzo (a) Pyrene ELISA Kit user's guide for assay procedure.

6. Evaluation of Results

The Benzo (a) Pyrene concentration in the samples is determined by multiplying the ELISA results by a factor of 50. Sample extracts showing a concentration lower than standard 1 (0.25 ppb) should be reported as containing < 12.5 ppb of Benzo (a) Pyrene. Samples showing a higher concentration than standard 5 (5.0 ppb) can be reported as containing > 250 ppb of Benzo (a) Pyrene or diluted further in ABRAXIS[®] Benzo (a) Pyrene Sample Diluent (50% methanol) and re-analyzed to obtain an accurate quantitative result.

Note: All additional dilutions must be done in 50% methanol to obtain accurate results.

7. For ordering or technical assistance contact

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