

DETECTION OF AVERMECTINS IN MILK (Ivermectin, Doramectin, Abamectin)

MATRIX Milk

RANGE OF DETECTION ABRAXIS Avermectin Plate Assay: >0.925 PPB

MATERIALS

Reagents: Acetonitrile (pesticide grade; Methanol (pesticide grade); distilled or deionized water; Sodium Chloride; Magnesium Sulfate.

Equipment: centrifuge capable of 2500 X g; 10 mL glass vials with teflon lined screw caps or glass test tubes; serological pipettes; pasteur pipettes; shaker or vortexer; scale or balance.

EXTRACTION PROCEDURE

1. Label glass vials or glass tubes
2. Add 2 mL of milk samples into vial or tube
3. Add 4 mL of acetonitrile, vortex well for 10-20 seconds
4. Centrifuge at 2500 x g for 5 minutes
5. Using a glass Pasteur pipette carefully remove and save the top layer (taking care not to remove the congealed fat matter, which it can be discarded). The top layer can be added to a clean vial or tube.
6. Add 0.3 gm of Sodium chloride to the tube containing the sample
7. Mix on a vortex mixer for 10-20 seconds
8. Centrifuge at 2500 x G for 5 minutes
9. Again transfer the top organic layer to a clean vial or tube
10. Add 0.8 mL of deionized water
11. Add 0.3 gm of Sodium chloride to the tube containing the sample
12. Mix on a vortex mixer for 10-20 seconds
13. Centrifuge at 2500 x G for 5 minutes
14. Again transfer the top organic layer to a clean vial or tube
15. Add 0.8 gm of Magnesium Sulfate
16. Mix on a vortex mixer for 10-20 seconds
17. Centrifuge at 2500 x G for 5 minutes
18. Remove quantitatively 1.0 mL of the acetonitrile layer (top layer)
19. Concentrate to dryness using nitrogen
20. Add 1.5 mL of methanol and vortex to mix for 10-20 seconds
21. Add 1.0 mL of distilled water and vortex to mix

NOTE: Final concentration in the vial should be 60% methanol/40% water

ANALYSIS Analyze the diluted extract as the "sample" according to the package insert of the ABRAXIS Avermectin Plate Assay.

INTERPRETATION

Calculate the pesticide concentration in the milk by multiplying the assay result by 5 which is the factor introduced by The procedure:

NOTE: If the assay result is less than the concentration of STANDARD 1 (0.185 ppb), do not multiply the result. Report the result for this sample as < 0.185 ppb.

EXPECTED RESULTS When milk samples are extracted according to the procedure described above, average recoveries of avermectins is between 80-120% have been reported.

TECHNICAL ASSISTANCE

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