



Detection of Patulin, a naturally occurring mycotoxin, using the Orochem Prestige HPLC column technology

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Abstract:

Patulin (4-hydroxyl-4H-furo[3,2-c]pyran-2(6H)-one) is a naturally occurring mycotoxin found in moldy apples and pears. The FDA and the World Health Organization have set maximum allowable concentrations of patulin (50 milligrams per liter, or 50 parts per billion) in apple juice, cider, and apple products. HMF (hydroxyl methyl fufuraldehyde) is also found in fruit juices.

HPLC conditions:

Mobile Phase: 9% Acetonitrile, 91% 10mM Phosphate buffer, pH adjusted to 2.4 with H₃PO₄

Detection: UV@ 276nm

Flow Rate: 1ml/min

Column: Prestige C18 5 μ m 250 \times 4.6 mm

Sample preparation:

Vacuum filter 5ml of juice to be tested through an Orochem C 18 12gm SPE cartridge. Follow with 3ml of NaHCO₃ and two times with 3ml of 1% Glacial Acetic acid. Vacuum to dryness (5 minutes). Then elute the Cartridge with 3ml of a solution of 10% Ethyl Acetate/ 90% Ethyl Ether. Collect the eluant and dry with nitrogen. Add 500 μ l of 0.1% of Glacial Acetic Acid in water and Shake to dissolve the residue. Inject this solution directly into the HPLC



SPE Columns



Guard columns



HPLC Columns

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