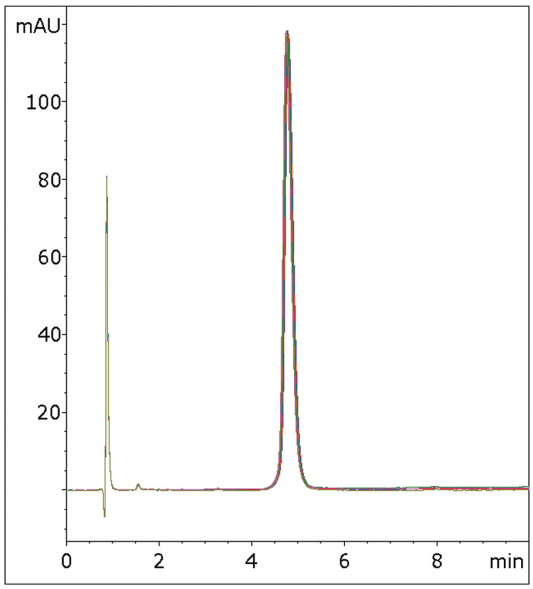
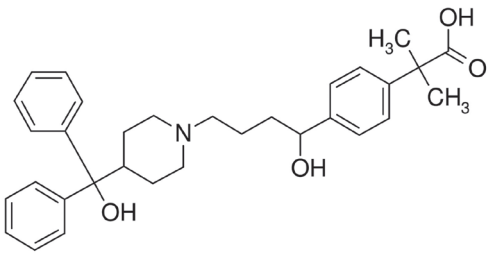
Fexofenadine

Simple isocratic assay method without amine additives





Note: Fexofenadine is marketed under the trade name Allegra, but generic versions are also available. In January 2011, the Food and Drug Administration approved over-the-counter sales of the drug without a prescription. It is a widely selling antihistamine used for treatment of hay fever and other allergies. Because it does not cross the blood-brain barrier, it causes less drowsiness than first generation antihistamines.

Method Conditions

Column: Cogent Phenyl Hydride™, 4µm, 100Å

Catalog No.: 69020-7.5P

Dimensions: 4.6 x 75 mm

Mobile Phase: 62% DI H_2O / 38% acetonitrile / 0.1% TFA

Temperature: 35˚C

Injection vol.: 5µL

Flow rate: 1.0 mL/min

Detection: UV 220 nm

Sample: Stock Solution: 180 mg strength Allegra® tablet was ground and added to a 100 mL volumetric flask. It was diluted with the mobile phase and vortexed 5 min. A portion was filtered with a 0.45µm nylon syringe filter (MicroSolv Tech Corp.). **Working Solution:** A 100µL aliquot of the stock was diluted with 900µL of the mobile phase.

Peak: Fexofenadine

t_0: 0.87 min

Discussion

Fexofenadine is well-suited for retention with the Cogent Phenyl Hydride column since it has a number of aromatic moieties. Also, the tertiary amine can cause peak tailing issues with type B silica-based L11 columns if an amine additive is not used in the mobile phase.The USP assay method for fexofenadine tablets uses triethylamine for this reason. Here, excellent peak shapes are observed from the five-run overlay shown in the figure using only triflouroacetic acid as the mobile phase additive.

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