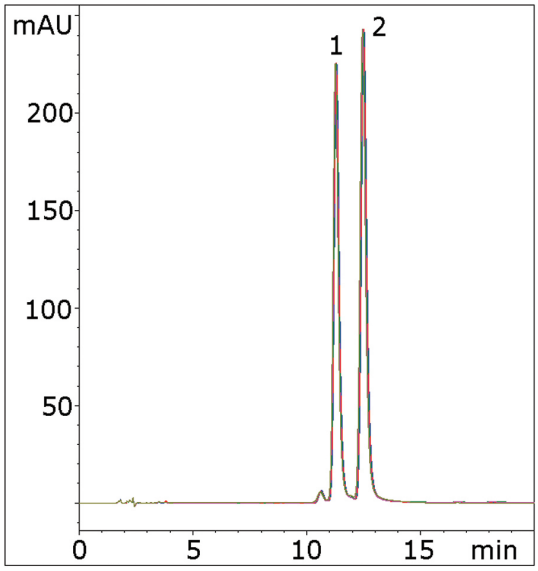
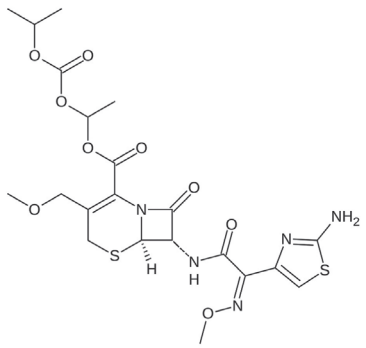
Cefpodoxime Proxetil

USP assay method





Note: Cefpodoxime proxetil is the prodrug of cefpodoxime, which is formed by hydrolysis of the prodrug ester bond. Cefpodoxime is a cephalosporin antibiotic used to treat conditions such as acute otitis media, pharyngitis, and sinusitis. It is marketed by Pfizer as Vantin®, but generic versions are also available.

Method Conditions

Column: Cogent Bidentate C18™, 4µm, 100Å

Catalog No.: 40018-25P

Dimensions: 4.6 x 250 mm

Mobile Phase: 60% 20 mM ammonium acetate / 40% acetonitrile

Temperature: 30˚C

Injection vol.: 20µL

Flow rate: 1.0mL/min

Detection: UV 235 nm

Sample: Stock Solution: A 200 mg strength cefpodoxime proxetil tablet was ground and added to a 100 mL volumetric flask. The flask was diluted to mark with the mobile phase and sonicated. A portion was then filtered with a 0.45 micron nylon syringe filter (MicroSolv Tech Corp.).
Working Solution: 100µL of the stock solution was diluted with 900µL of the mobile phase.

Peaks: 1. Cefpodoxime Proxetil, S-epimer
2. Cefpodoxime Proxetil, R-epimer

t_0: 1.9 min

Discussion

The USP assay method for cefpodoxime proxetil specifies a resolution of not less than 2.5 must be obtained between the two epimers of the prodrug. Following the method using a Cogent Bidentate C18 column, the average resolution was calculated to be 2.8. In addition, the R epimer tailing factor must be not more than 1.5. Again, this data meets this requirement with a tailing factor of 1.2. Finally, the data shows good repeatability with a retention time %RSD from five runs of 0.2%.

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