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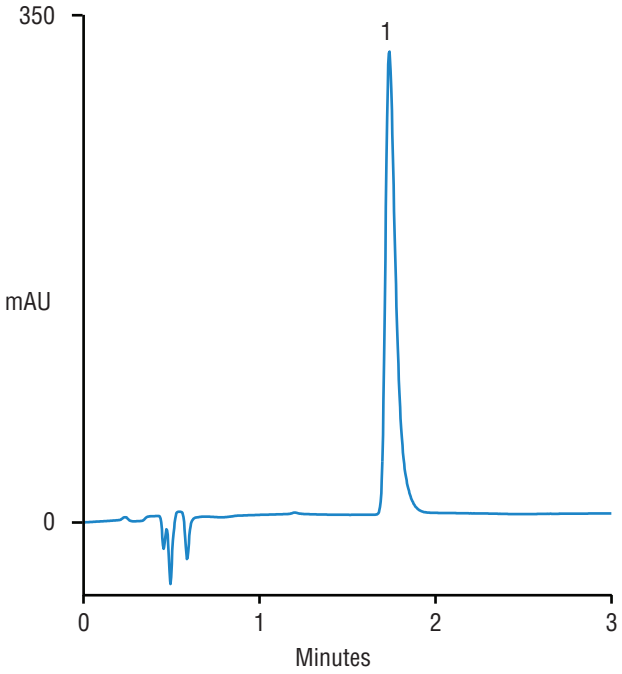
Cimetidine Determination Using a Thermo Scientific™ Acclaim™ Trinity™ P1 Column



Column:	Thermo Scientific™ Acclaim™ Trinity™ P1, 3 µm
Dimension:	3.0 × 50 mm
HPLC System:	Thermo Scientific™ Dionex™ UltiMate™ 3000 RSLC system
Buffer:	100 mM Ammonium formate, 100 mM formic acid, pH 3.8
Mobile Phase:	196 g Acetonitrile + 200 g buffer + 550 g water
Flow Rate:	0.60 mL/min
Inj. Volume:	2.0 µL
Temperature:	30 °C
Detection:	UV at 220 nm
Sample:	One 200 mg tablet dissolved in 20 mL water with sonication; filtered; diluted 50× with water.
Peaks:	1. Cimetidine 200 µg/mL

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Cimetidine is the first of its class of selective histamine H2-antagonists that reduce the secretion of stomach acid. It is used to treat duodenal and gastric ulcers, heartburn, gastro-esophageal reflux, and related disorders. The molecule is both hydrophilic and basic, making it difficult to analyze with conventional C18 columns. The Acclaim Trinity P1 column has unique chemistry, which provides reversed-phase, anion-exchange, and cation-exchange retention mechanisms at the same time. In this example, the drug molecule is retained by the cation-exchange mechanism.