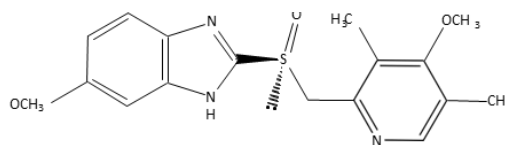


Esomeprazole, which is a type of proton pump inhibitors, prevents secretion of gastric acid. It is used for the treatment of gastric ulcers, duodenal ulcers, and eradication of *Helicobacter pylori*.

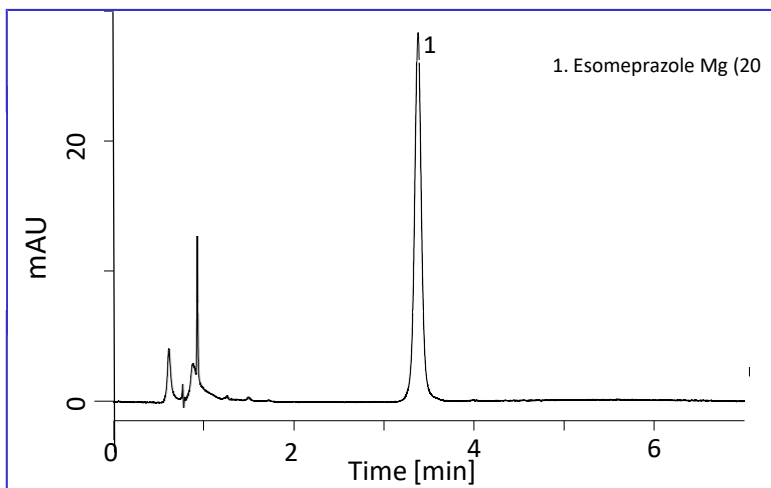
In this note, chromatograms of esomeprazole based on the condition described in the United States Pharmacopeia (USP) are shown. By using InertSustain C18, not only rapid analysis can be carried out but also symmetric peak was obtained.

Chemical Structure



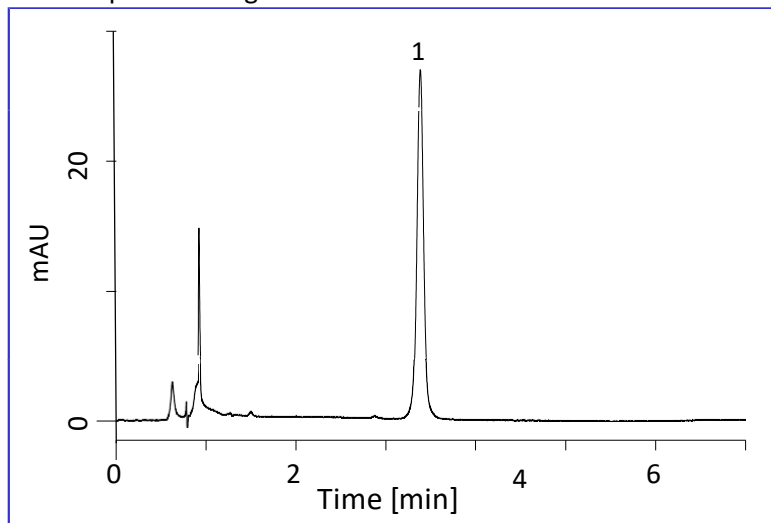
Structures are created using Chemistry 4-D Draw which is provided by ChemInnovation Software, Inc.

Standard Solution



Tablet Sample

The sample concentration was adjusted to 20 mg/L as esomeprazole magnesium.



Conditions

Column	: InertSustain C18 HP (3 μm, 50 x 4.6 mm I.D.)
Column Cat. No. :	5020-14442
Eluent	: A) CH ₃ CN B) Buffer* A/B = 35/65, v/v
Flow rate	: 1.0 mL/min
Column temp.	: 30 °C
Detection	: UV 280 nm
Injection Vol.	: 9 μL

* Buffer: Sodium dihydrogenphosphate (0.725 g) and di-sodium hydrogen phosphate (4.472 g) was dissolved in 300 mL of purified water. The solution was made up to 1000 mL with purified water. After 4-fold dilution of this solution with purified water, its pH value was adjusted to 7.6 by adding phosphoric acid.

An Example of Pretreatment Method for Tablet Sample

Sample

Grind tablet into powder
Weigh the powder equivalent to 20 mg of esomeprazole magnesium.

Extraction

Add 80 mL of diluent** Sonication extraction for 15 min
Make up to 100 mL with HPLC eluent

Filtration

0.45 μm membrane filter

Dilution

10-fold dilution with diluent
** diluent: 11 mL of 0.25 M Na₃PO₄ and 22 mL of 0.5 M Na₂HPO₄ was mixed and made up to 100 mL with purified water.

HPLC

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