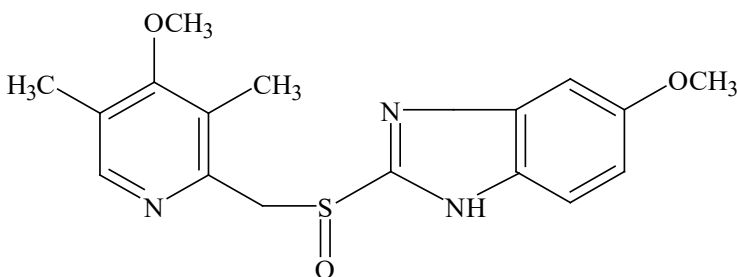


Analysis of omeprazole, used for the treatment of gastric and duodenal ulcers

Omeprazole is a drug that inhibits acid production, it is used in the treatment of stomach ulcers, duodenal ulcers, and reflux esophagitis. This application note presents a method for the extraction of omeprazole from serum using InertSep Phama and measurement with LC-MS/MS.

1. Flow diagram of solid phase pretreatment

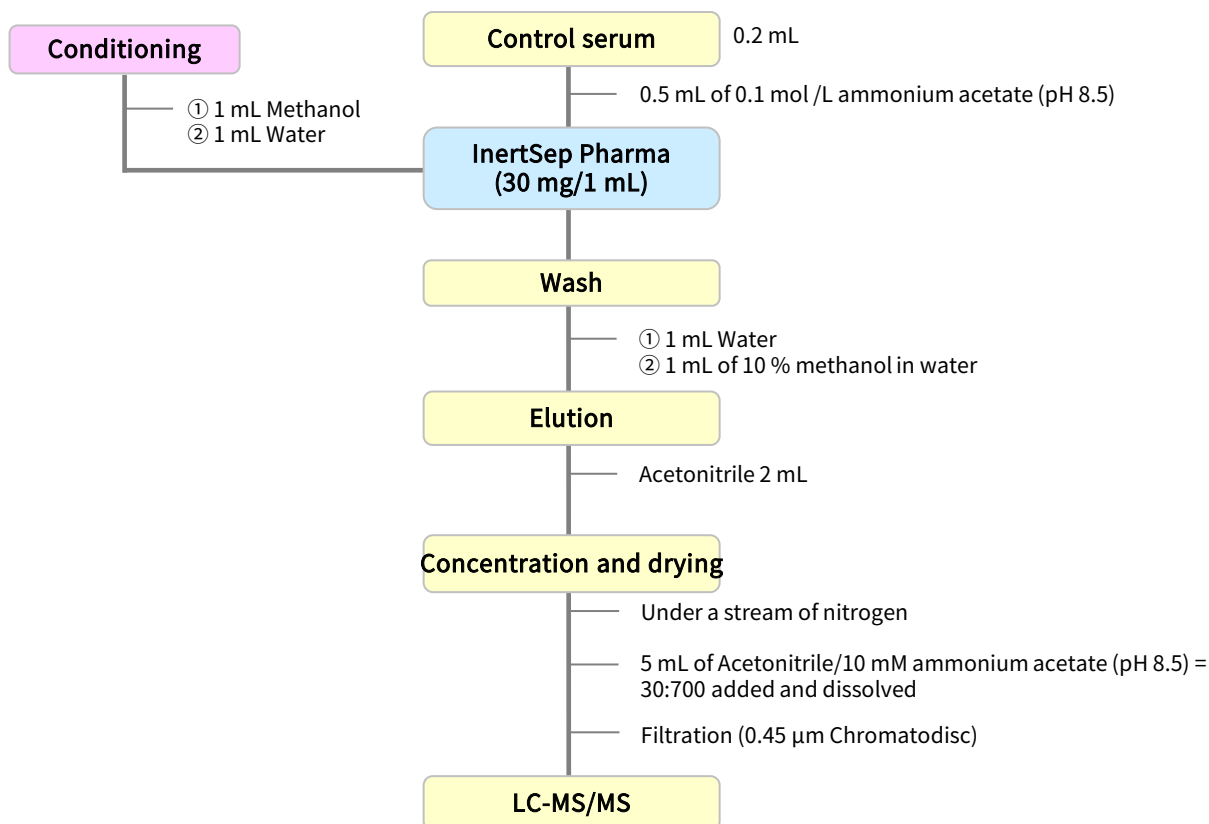
[Structure of omeprazole]



Omeprazole

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

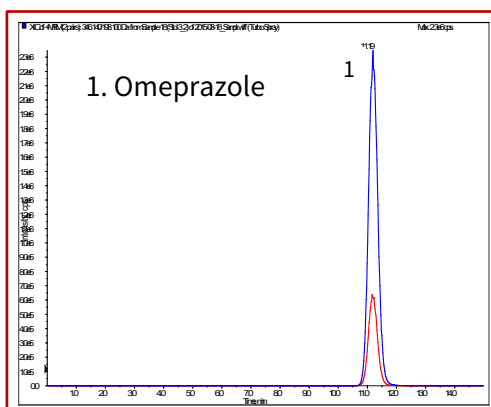
[Example of omeprazole pretreatment]



NOTE) This is a method developed by GL Sciences based on literature information.

2. Measurement conditions

Example: measurement of standard



HPLC conditions

Column : InertSustain C18 (5 μm, 150 x 2.1 mm I.D.)

Eluent : A) CH₃CN
 : B) 10 mM HCOONH₄ in H₂O (pH7.6)
 A/B = 30/70, v/v

Flow rate : 0.2 mL/min

Column temperature : 30 °C

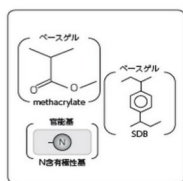
Detection : LC-MS/MS

(API 4000 : ESI, Positive, MRM)

3. Measurement-related products

Solid-phase extraction column

[InertSep Pharma]



Mean particle size : 30 μm
 Surface Area : 600 m²/g
 Pore volume : 1.1 mL/g
 Pore size : 70 Å
 PH range of use : 1 - 14

Injection volume

: 10 μL
 : Omeprazole Q1/Q3 = Quantitative ion 346/198
 Confirmatory Ion 346/136

Sample

InertSep Pharma is a complex polymer solid phase of N-containing methacrylate and styrene divinylbenzene. This is a reversed-phase polymer solid phase dedicated to pharmaceutical analysis developed for simultaneous screening of pharmaceutical compounds in biological materials.

Product name	Column size	Qty.	Cat.No.
InertSep Pharma	30 mg/1 mL	100 bottles	5010-27100

Chromatodisk

[GL chromatodisk]

A hydrophilic PTFE filter that can be used without pre-wetting in either aqueous or non-aqueous systems, with solvents of up to 100 % aqueous or acetonitrile.

Product name	Model	Diameter (mm)	Pore Size (μm)	Qty.	Cat.No.
Water/non-water (also)	4P	4	0.45	100	5040-28540

HPLC column

[InertSustain C18]

Silica gel

High purity spherical : silica gel (ES silica)

Surface Area : 350 m²/g
 Pore size : 100 Å
 Pore volume : 0.85 mL/g
 End capping : Yes
 Carbon : 14 %
 U S P Code : L1
 Recommended pH range for use : 1 - 10

InertSustain C18 is an ODS column that can be used with 100 % aqueous eluents. It was developed by pursuing inertness and chemical stability using GL Sciences' proprietary synthetic technology.



Product name	Particle size	Inside diameter	Length	Cat.No.
InertSustain C18	5 μm	2.1 mm	150 mm	5020-07315

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