

Omeprazole in Rat Plasma

Waters Corporation



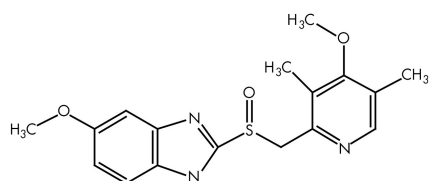
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief highlights the analysis of omeprazole in rat plasma using Oasis MCX extraction method.

Introduction

Omeprazole in rat plasma is being analyzed in this application brief.



Omeprazole

Experimental

HPLC Method

Column:	XTerra MS C ₁₈ 2.1 x 30 mm, 3.5 µm (p/n: 186000398)
Mobile phase A:	1.0% NH ₄ OH
Mobile phase B:	ACN
Isocratic mobile phase composition:	50% A; 50% B
Flow rate:	0.2 mL/min
Injection volume:	20 µL
Detection:	MS ESI+
Instrument:	Alliance 2690, Quattro Ultima
Ion source:	ESI+

Source temp.:	150 °C
Gas cell:	1.5e ⁻³ mbar, 10 eV
Desolvation temp.:	350 °C
Cone gas flow:	150 L/hr
Drying gas flow:	600 L/hr
Cone voltage:	30 V

Oasis MCX Extraction Method

Oasis MCX Extraction Plate, 10 mg/96-well Part Number [186000259 <
https://www.waters.com/nextgen/in/en/shop/sample-preparation--filtration/186000259-oasis-mcx-96-well-plate-10-mg-sorbent-per-well-30--m-1-pk.html>](https://www.waters.com/nextgen/in/en/shop/sample-preparation--filtration/186000259-oasis-mcx-96-well-plate-10-mg-sorbent-per-well-30--m-1-pk.html)

OASIS® MCX EXTRACTION METHOD

Oasis® MCX Extraction Plate, 10 mg/96-well

Part Number 186000259

CENTRIFUGE:

25 mL of EDTA rat plasma
at 10 000 (RPM)

SPIKE:

5 mL of centrifuged plasma with drug
(max 5% organic load) Add 100 µL
NH₄OH (omeprazole is acid sensitive)

CONDITION PLATE:

500 µL methanol followed
with 500 µL water

LOAD PLATE:

500 µL spiked rat plasma

WASH PLATE:

500 µL 2 % HCl in water

ELUTE PLATE:

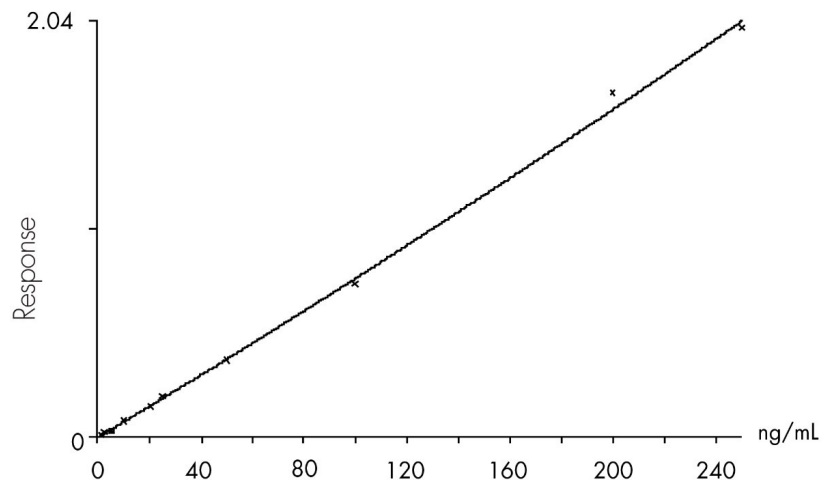
300 µL 5% NH₄OH in methanol

DILUTE:

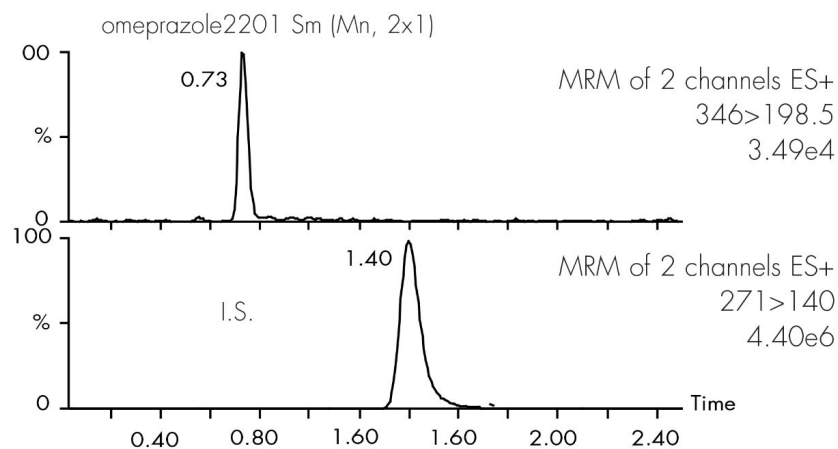
200 µL water

Results and Discussion

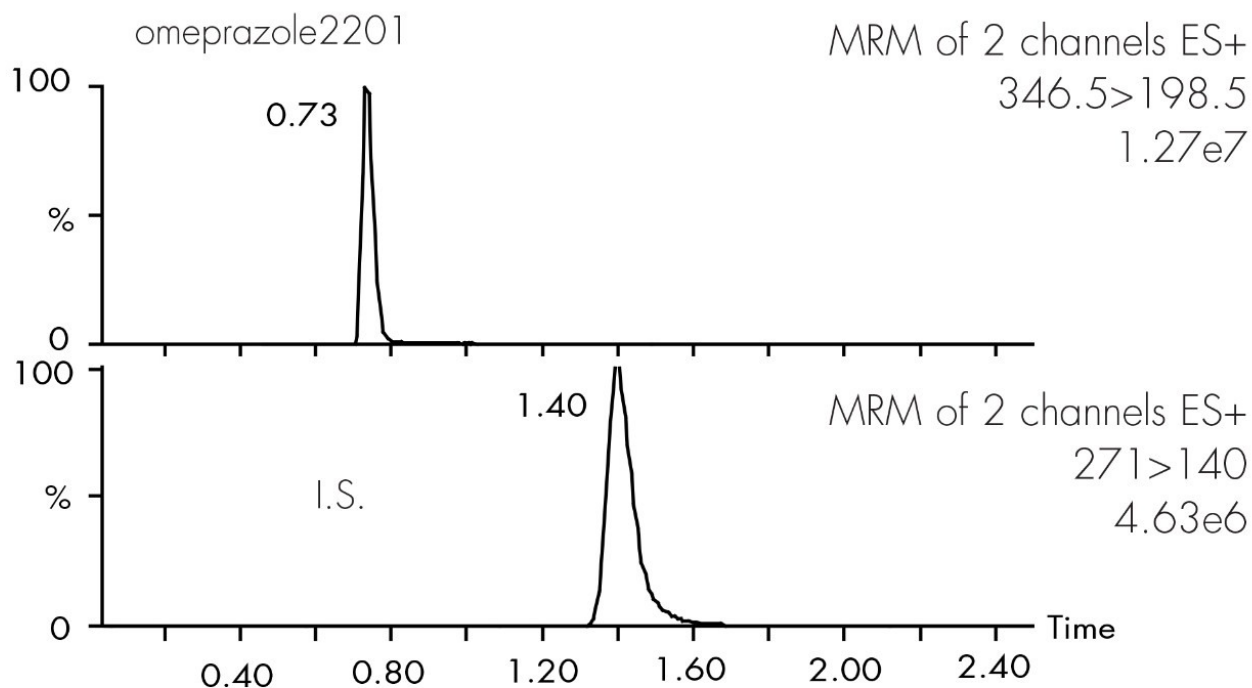
Compound name: Omeprazole
 Coefficient of Determination: 0.000956920
 Calibration curve: $2.49567 \times 10^{-6} \cdot x^2 + 0.00754050 \cdot x + 0.000956920$
 Response type: Internal Std (Ref), Area* (IS Conc./IS Area)
 Curve type: 2nd Order, Origin: Exclude, Weighting: $1/x^2$, Axis trans: None



Spike 1.0 ng plasma, 50/50 ACN/H₂O 1.0% NH₄OH



Spike 250 ng plasma, 50/50 ACN/H₂O 1.0% NH₄OH



Omeprazole (ng/mL)	Mean	Standard deviation	Coefficient of variation (%)	Recovery (%)
1	0.95	0.06	6.7	95
2.5	2.57	0.19	7.7	102
10	9.58	0.47	4.9	95
20	20.16	0.89	4.4	100
50	54.04	2.2	4.2	108
100	102.6	6.3	6.3	102
250	248.4	3.3	3.3	99

Featured Products

· [Alliance HPLC <https://www.waters.com/514248>](https://www.waters.com/514248)

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