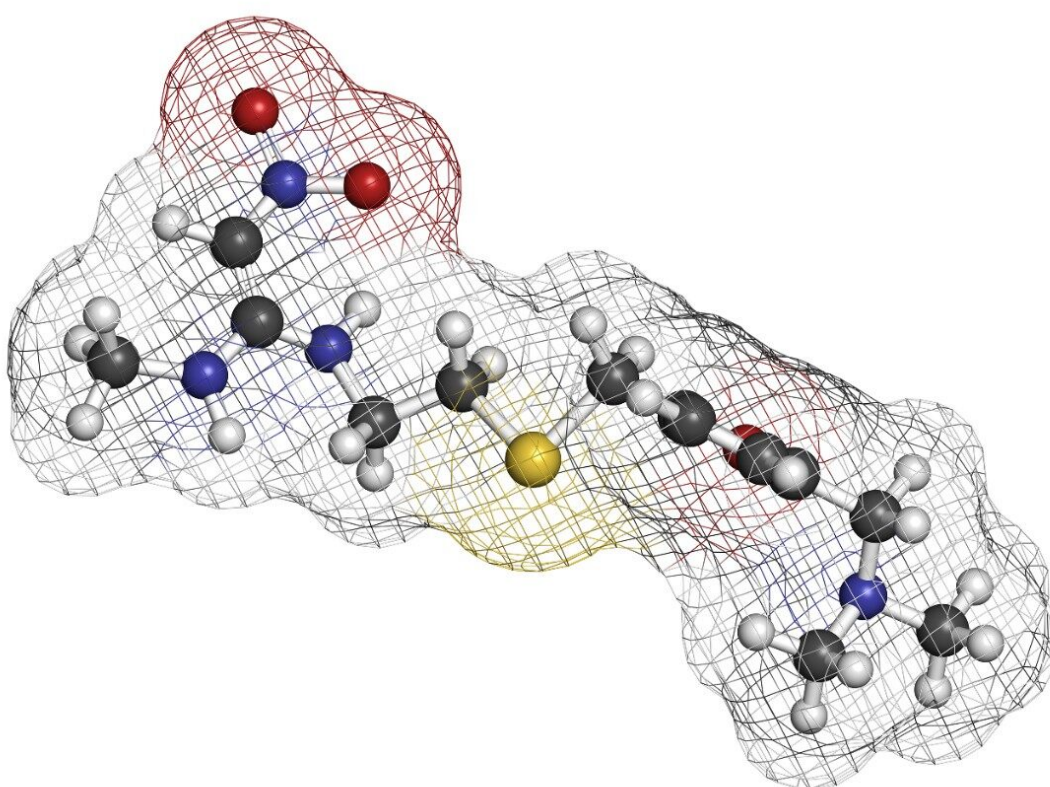


Ranitidine in Rat Plasma (H₂ Blocker)

Waters Corporation



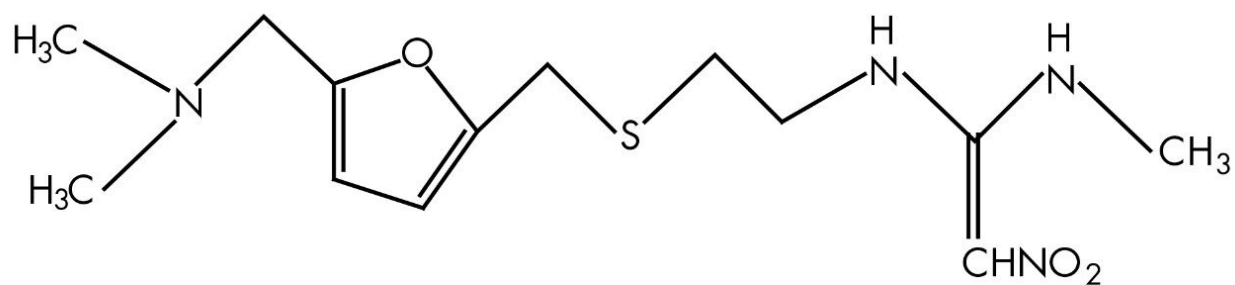
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief demonstrates analysis of ranitidine in rat plasma.

Introduction

The compound analyzed in this study is ranitidine.



RANITIDINE

Experimental

HPLC Method

Column:	Xterra MS C ₁₈ 2.1 x 30 mm, 3.5 µm
Part number:	186000398
Mobile phase A:	100 mM NH ₄ COOH
Mobile phase B:	ACN
Isocratic mobile phase composition:	30% A; 70% B
Flow rate:	0.2 mL/min
Injection volume:	15 µL

Detection:	MS ESI ⁺
Instrument:	Alliance 2790, Micromas Quattro Ultima
Ion source:	ESI ⁺
Source temperature:	150 °C
Gas cell:	1.5e ⁻³ mbar, 20eV
Desolvation temperature:	350 °C
Cone gas flow:	150 L/hr
Drying gas flow:	600 L/hr
Cone voltage:	20V

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

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:

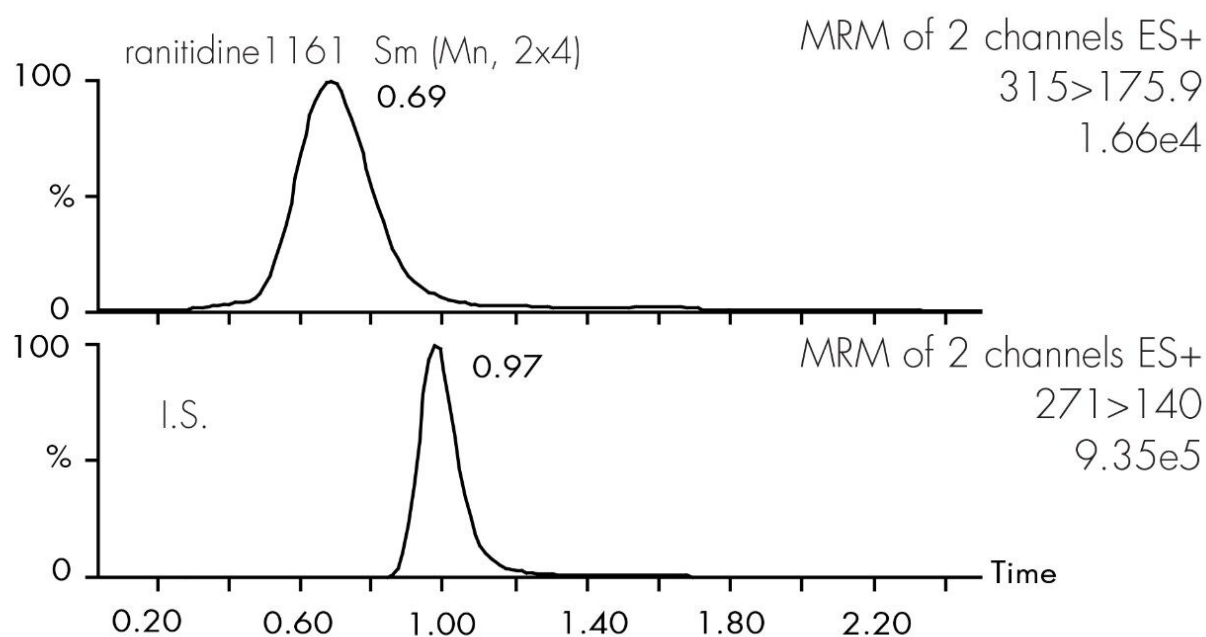
300 µL 5% NH₄OH in methanol

DILUTE:

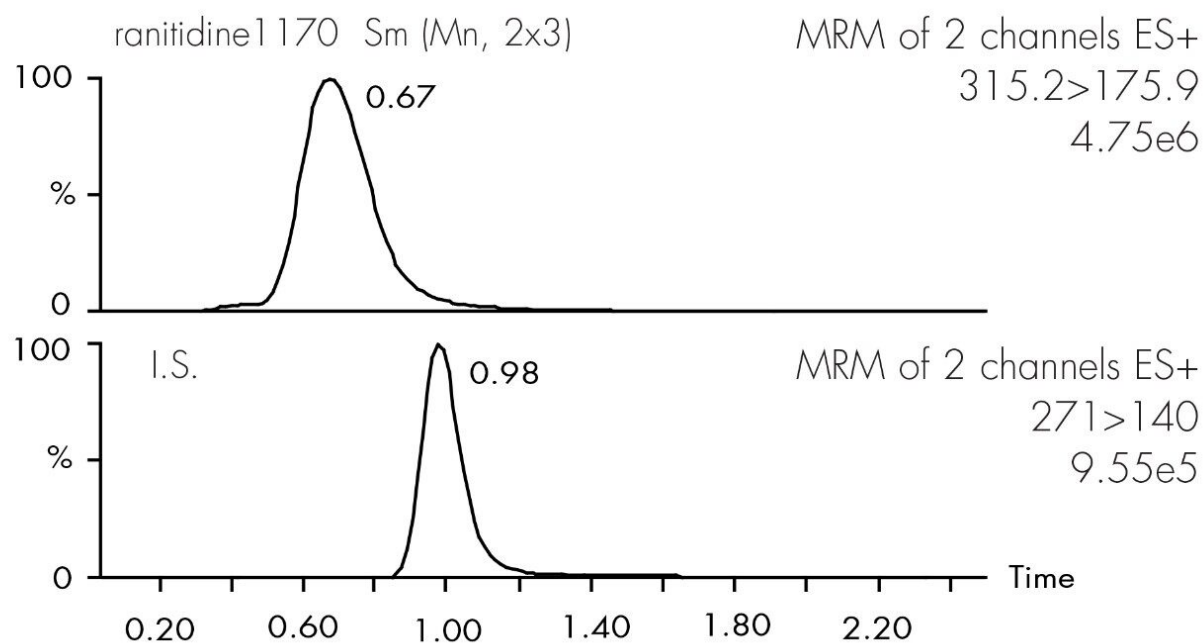
200 µL water

Results and Discussion

Plasma spike 1.0 ng/mL, 70/30 ACN/H₂O 0.1 M NH₄ Formate



Plasma spike 250 ng/mL, 70/30 ACN/H₂O 0.1 M NH₄ Formate



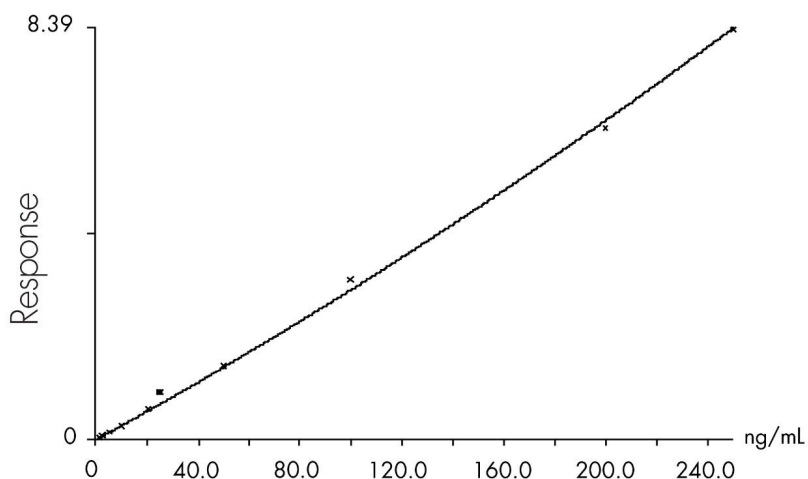
Compound name: Ranitidine

Coefficient of Determination: 0.999099

Calibration curve: $2.002205 \times 10^{-5} x^2 + 0.0284745 x + 0.00311700$

Response type: Internal Std (Ref 1), Area* (IS Conc./IS Area)

Curve type: 2nd Order, Origin: Exclude, Weighting: $1/x^2$, Axis trans: None



RANITIDINE (MCX) (ng/mL)	Mean	Standard deviation	Coefficient of variation (%)	Recovery (%)
1	0.99 (5)	0.02	2	99
2.5	2.54	0.11	4.3	100
5	4.9	0.3	6.1	98
10	10.26	0.68	6.6	102
20	19.46	0.97	4.9	97
50	49.78	2.51	5	99
100	101.55	5.31	5.2	101
200	201.97	4.67	2.3	101
250	247.09	1.4	0.5	99

Featured Products

Alliance HPLC System <<https://www.waters.com/534293>>

WA31764.137, June 2003

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