

Application Note

Clemastine in Rat Plasma - Oasis On-Line (2 Column Approach (Using XTerra Oasis HLB Extraction Column 2.1 × 20 mM, 25 mM, XTerra Analytical Column 2.1 × 30, 3.5 mM))

Waters Corporation

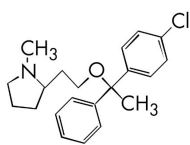
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

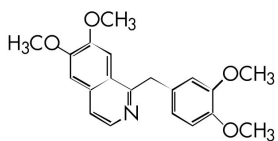
This application brief highlights the analysis of clemastine in rat plasma using Oasis HLB extraction method.

Introduction

Clemastine has been studied in this application brief.



CLEMASTINE



PAPAVERINE I.S.

Experimental

Conditions

LC ₁ :	Alliance 2790 - 0.4 mL/min
LC ₂ :	Waters 515-4.0 mL/min
Loading mobile phase:	100% water
Eluting mobile phase:	1 minute gradient 5% ACN to 95% ACN
Eluting mobile phase additive:	0.5% Formic acid
Extraction column temp.:	40 °C
Switching valve:	Rheodyne LabPro 10 ports, 2 position
MS:	Waters Micromass Quattro Ultima Triple Quadrupole
Ion source:	ESI+
Source temp.:	150 °C

Gas cell: 1.5e⁻³ mbar

Desolvation gas: 600 L/hr

Cone voltage: 20 V

Collision energy: 20

Gradient

Time	HPLC gradient flow 0.4 mL/min		Valve position
	A	B	
0.0	5	95	
0.5			Switch position 2 to 1
1.0	95	5	
2.60	95	5	
2.90			Switch position 1 to 2
3.0	5	95	

A - Acetonitrile + 0.5% formic acid

B - Water + 0.5% formic acid

A - Acetonitrile + 0.5% Formic Acid

B - Water + 0.5% Formic Acid

OASIS® HLB EXTRACTION METHOD

Oasis® HLB Extraction Column 2.1 x 20 mm, 25 µm
Part Number 186000706

SAMPLE PREPARATION:

centrifuge rat plasma

SAMPLE PREPARATION:

Spike 5 mL of rat plasma + 100 µL
NH₄OH

SAMPLE PREPARATION:

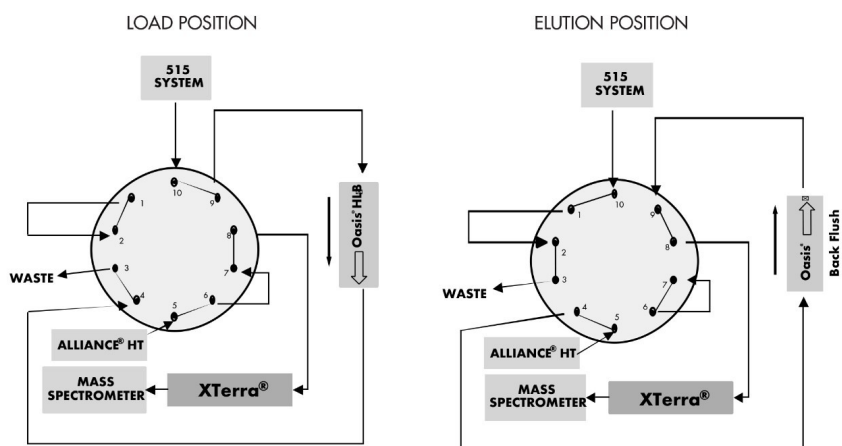
500 µL of spiked rat plasma +
400 µL IS in water

LOADING:

200 µL at 4mL/min in 100% water

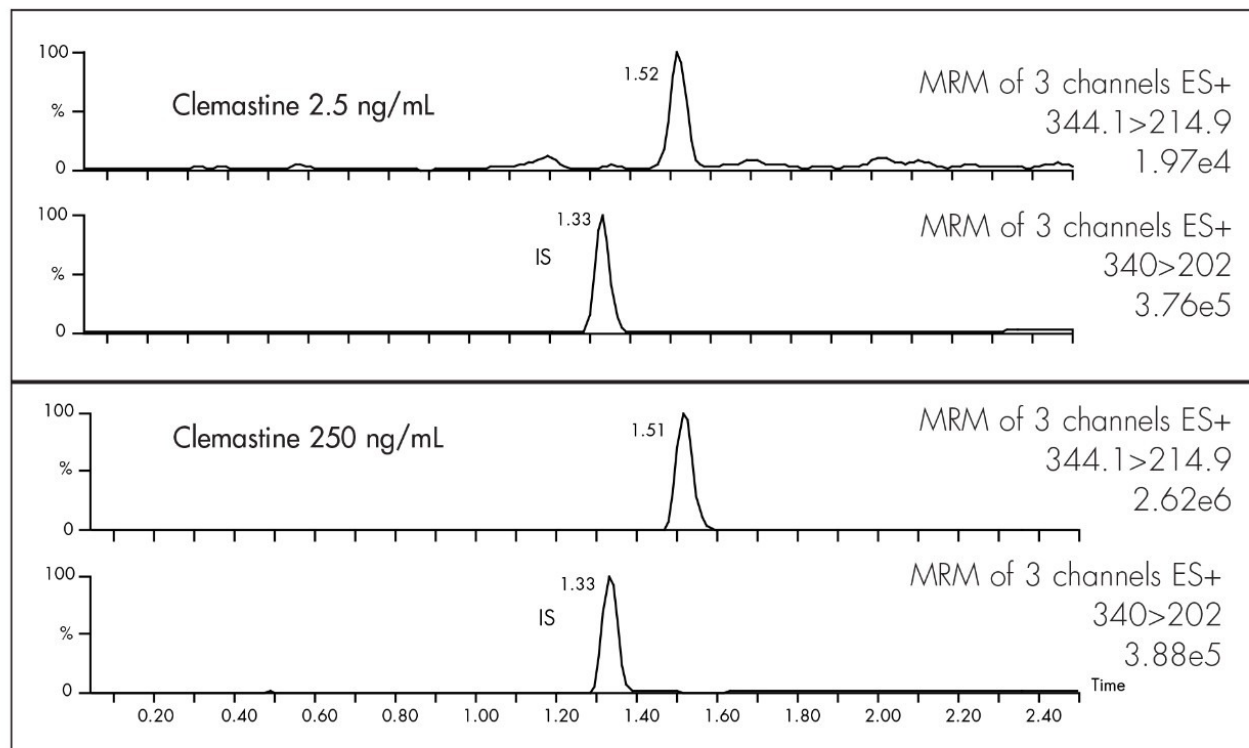
ELUTION:

0.4 mL/min gradient 5% ACN
to 95% ACN in 1 minute

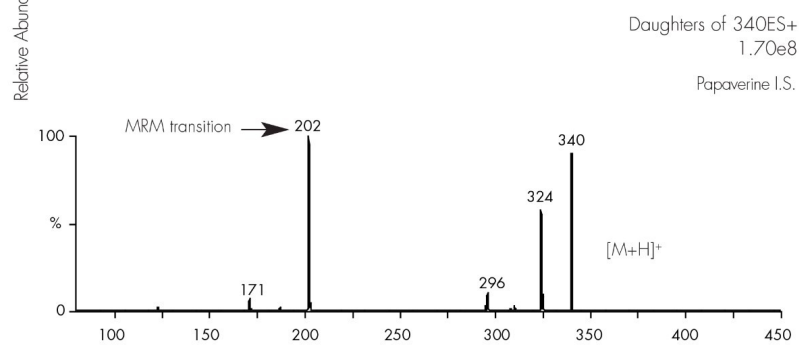
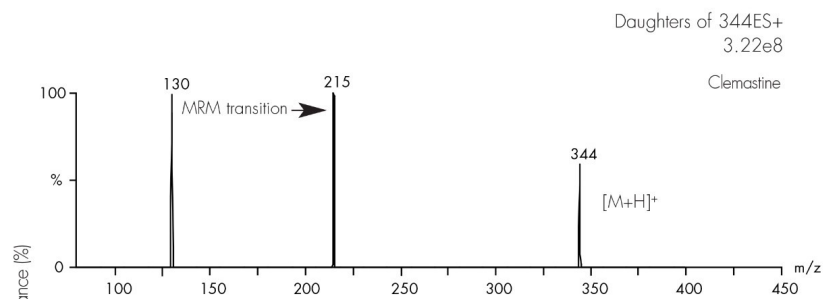


Results and Discussion

OASIS® HLB /XTERRA® LC/MS/MS ANALYSIS OF CLEMASTINE at 2.5 ng/mL and 250 ng/mL



CID MASS SPECTRA

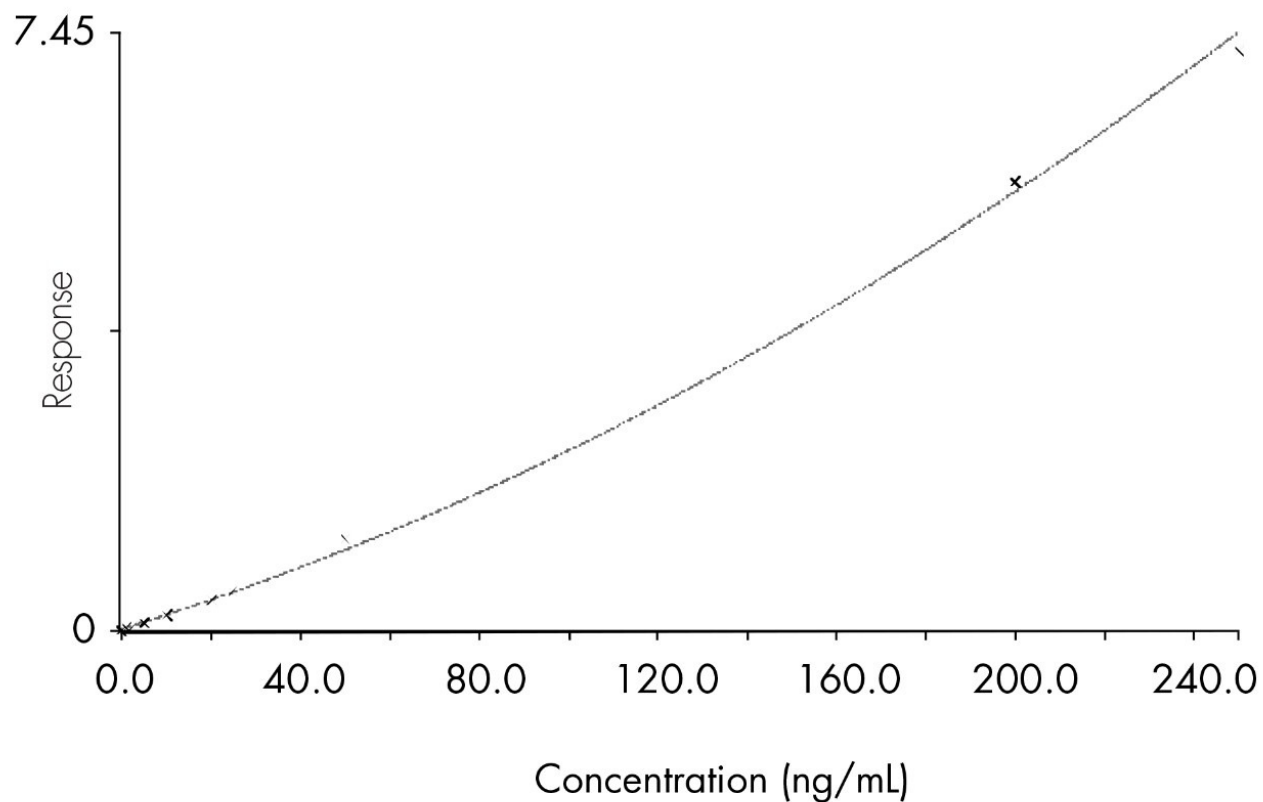


Coefficient of Determination: 0.998500

Calibration curve: $5.01311\text{e-}5 * x^2 + 0.0172052 * x + 0.0166854$

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

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



Conc. ng/mL N-6	Average	Standard deviation	RSD%
1	1.01	0.01	1.3
5	4.8	0.1	2.0
10	9.7	0.2	1.7
20	20.3	0.9	4.4
25	24.3	0.9	3.5
200	206.9	4.2	2.0
250	243.1	3.1	1.3

Featured Products

Alliance HPLC <<https://www.waters.com/514248>>

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