

Ropinirole On Oasis MCX

Waters Corporation

Introduction

Ropinirole is a potent, basic drug with a low oral dose range. A bioanalytical method needs to be developed that can reach a lower limit of quantitation of 0.02 ng/mL, which is lower than what is typically required. The Oasis® MCX μ Elution 96-well plate was selected for its increased sensitivity through concentration, without drying down which allows reconstituting the extract.

Experimental

Test Conditions

Oasis MCX μ Elution 96-well plate:

Condition:	200 μ L MeOH
Equilibrate:	200 μ L H ₂ O
Load:	400 μ L diluted plasma sample (200 μ L plasma diluted 1:1 with 4% H ₃ P O ₄)

Wash 1:	200 µL 2% HCOOH
Wash 2:	200 µL MeOH
Elute:	2 X 25 µL 5% NH ₄ OH in 90:10 MeOH:H ₂ O (less MeOH used for a cleaner extract – less residual matrix components eluted.)
Injection:	8 µL (direct injection)
Column:	ACQUITY UPLC® BEH C ₁₈ , 2.1 x 50 mm, 1.7 µm
Mobile Phase A:	10 mM NH ₄ COOH, pH 9
Mobile Phase B:	MeOH
Flow Rate:	0.5 mL/min
Injection Volume:	8.0 µL
Column Temp:	45 °C
Sample Temp:	15 °C
Sample Diluent:	25:75 H ₂ O:MeOH
Strong Needle Wash:	60:40 ACN:IPA + 0.5% HCOOH (1200 µL)
Weak Needle Wash:	95:5 H ₂ O:MeOH (500 µL)

Gradient Table

Time	Profile		Curve
	%A	%B	
0.0	95	5	6
2.0	2	98	6
2.5	2	98	6
2.6	95	5	6
3.0	95	5	6

Quattro Premier™

Desolvation Temp: 350 °C

Cone Gas Flow: 50 L/Hr

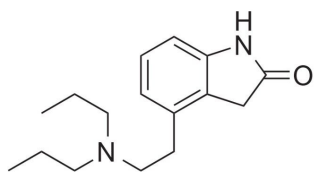
Desolvation Gas Flow: 700 L/Hr

Collision Cell Pressure: 2.6×10^{-3} mbar

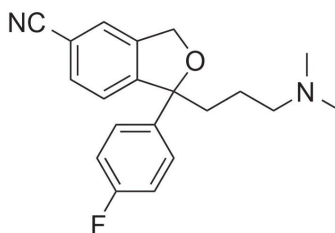
MRM transitions monitored: Ropinirole m/z 261.2 > 113.95 (ESI+)

Citalopram (IS) m/z 325.2 > 108.85 (ESI+)

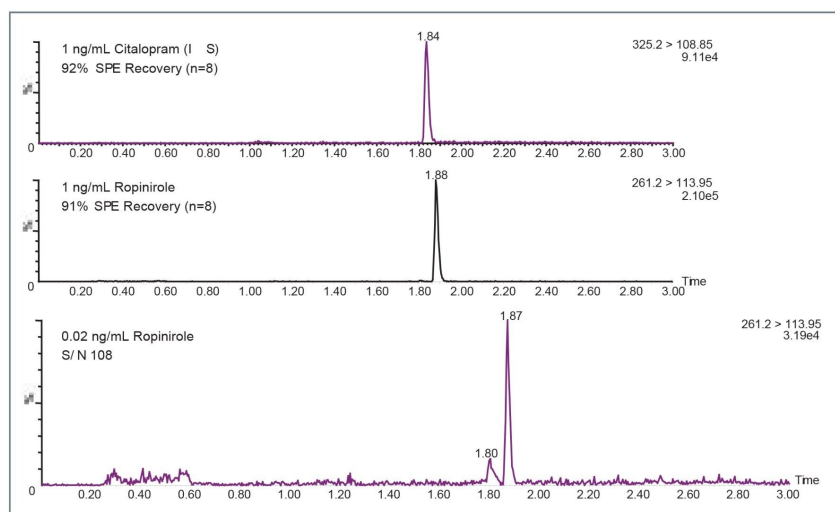
For both analytes, the optimal cone voltage was 40 V. For Ropinirole and Citalopram, the collision energies were 18 eV and 25 eV, respectively.



Ropinirole
MW 260.4
pKa 9.7



Citalopram
MW 324.4
pKa 9.5



Results and Discussion

Sales Offices

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and Middle East) 43 1 877 18 07

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Denmark 45 46 59 8080

Finland 09 5659 6288

France 33 1 30 48 72 00

Germany 49 6196 400600

Hong Kong 852 29 64 1800

Hungary 36 1 350 5086

India and India Subcontinent

91 80 2837 1900

Ireland 353 1 448 1500

Italy 39 02 27 421 1

Japan 81 3 3471 7191

Korea 82 2 820 2700

Mexico 52 55 5200 1860

The Netherlands 31 76 508 7200

Norway 47 6 384 60 50

Poland 48 22 833 4400

Puerto Rico 1 787 747 8445

Singapore 65 6273 1221

Spain 34 93 600 9300

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Featured Products

Oasis Sample Extraction Products <<https://www.waters.com/nextgen/global/products/sample-preparation/oasis-sample-extraction-products.html>>

WA60089, June 2007



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