

## Ropinirole On Oasis MCX

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Waters Corporation

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### 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  $\mu$ Elution 96-well plate was selected for its increased sensitivity through concentration, without drying down which allows reconstituting the extract.

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### Experimental

#### Test Conditions

Oasis MCX  $\mu$  Elution 96-well plate:

|              |                                                                                                             |
|--------------|-------------------------------------------------------------------------------------------------------------|
| Condition:   | 200 $\mu$ L MeOH                                                                                            |
| Equilibrate: | 200 $\mu$ L H <sub>2</sub> O                                                                                |
| Load:        | 400 $\mu$ L diluted plasma sample (200 $\mu$ L plasma diluted 1:1 with 4% H <sub>3</sub> P O <sub>4</sub> ) |

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|                     |                                                                                                                                                 |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------|
| Wash 1:             | 200 µL 2% HCOOH                                                                                                                                 |
| Wash 2:             | 200 µL MeOH                                                                                                                                     |
| Elute:              | 2 X 25 µL 5% NH <sub>4</sub> OH in 90:10 MeOH:H <sub>2</sub> O (less MeOH used for a cleaner extract – less residual matrix components eluted.) |
| Injection:          | 8 µL (direct injection)                                                                                                                         |
| Column:             | ACQUITY UPLC® BEH C <sub>18</sub> , 2.1 x 50 mm, 1.7 µm                                                                                         |
| Mobile Phase A:     | 10 mM NH <sub>4</sub> COOH, pH 9                                                                                                                |
| Mobile P hase 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 <sub>2</sub> O:MeOH                                                                                                                     |
| Strong Needle Wash: | 60:40 ACN:IPA + 0.5% HCOOH (1200 µL)                                                                                                            |
| Weak Needle Wash:   | 95:5 H <sub>2</sub> 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

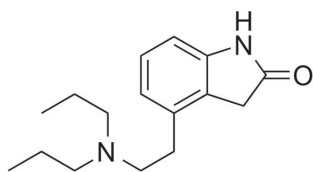
Collision Cell Pressure:  $2.6 \times 10^{-3}$  mbar

MRM transitions monitored:

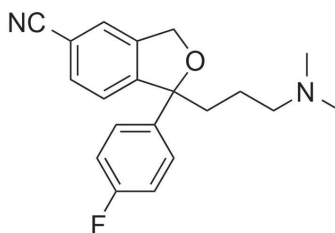
Ropinirole m/z 261.2 > 113.95 (ESI+)

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

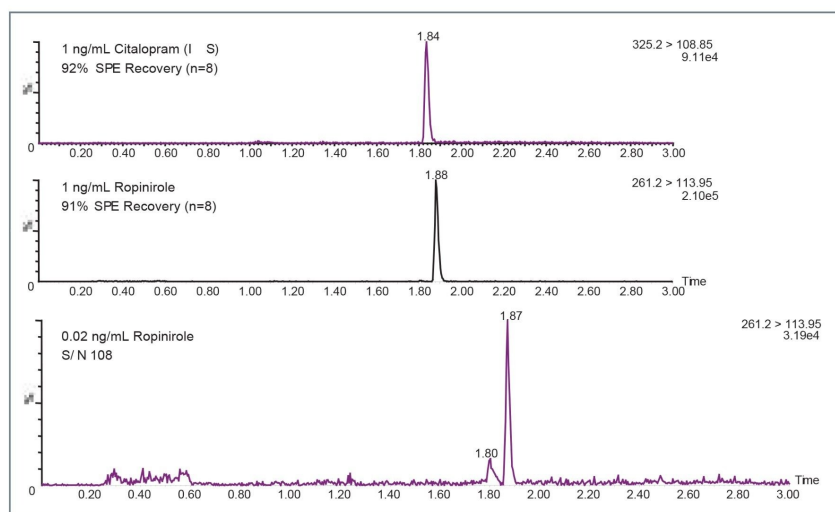
For both analytes, the optimal cone voltage was 40 V. For Ropinirole and Citalopram, the collision energies were 18 eV and 25 eV, respectively.



Ropinirole  
MW 260.4  
pKa 9.7



Citalopram  
MW 324.4  
pKa 9.5



## Results and Discussion

### Sales Offices

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Germany 49 6196 400600

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Ireland 353 1 448 1500

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## Featured Products

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

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