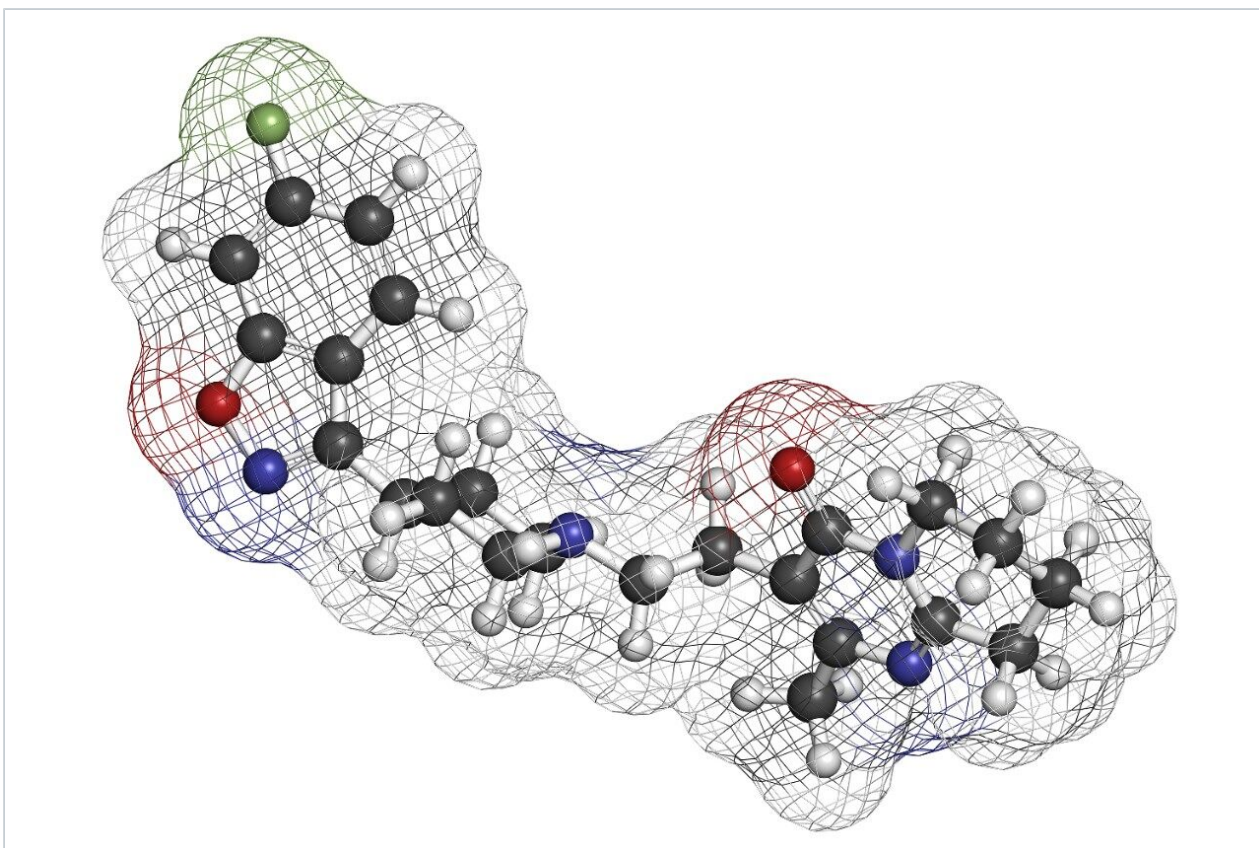




## Risperidone and 9-Hydroxyrisperidone on Oasis MCX

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Waters Corporation



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

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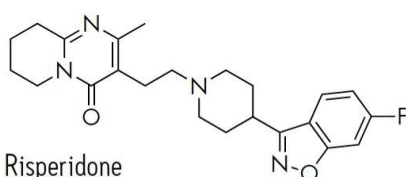
### Abstract

This application brief highlights the separation of risperidone and 9-hydroxyrisperidone on Oasis MCX.

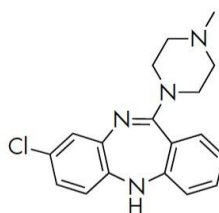
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## Introduction

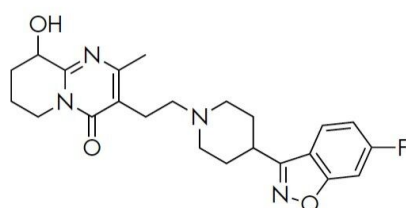
Risperidone is an antipsychotic drug and is rapidly metabolized to the 9-hydroxyrisperidone metabolite in the liver. This metabolite is the predominant circulating species with same activity as the parent and therefore, must be quantitated. All analytes are bases and therefore an Oasis MCX plate was selected.



Risperidone  
M.W. 410.5  
pKa = 8.24



Clozapine, ISTD  
M.W. 326.8  
pKa<sub>1</sub> = 3.7  
pKa<sub>2</sub> = 7.6



9-Hydroxyrisperidone  
M.W. 426.5

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## Experimental

### Test Conditions

Oasis MCX 10-mg plate ( P/N 186000259)

Condition:

500  $\mu$ L MeOH

Oasis MCX 10-mg plate ( P/N 186000259)

Equilibrate:	500 µL H <sub>2</sub> O
Load:	500 µL (250 µL human plasma, diluted 1:1 with 4% H <sub>3</sub> PO <sub>4</sub> in H <sub>2</sub> O)
Wash 1:	500 µL 2% FA
Wash 2:	500 µL MeOH
Elute:	250 µL (125 µL x 2) 5% NH <sub>4</sub> OH in MeOH
Options:	<ol style="list-style-type: none"><li>1. Dilute 250 µL H<sub>2</sub>O with 2% FA</li><li>2. Evaporate/ Reconstitute</li><li>3. Direct inject</li></ol>
Inject:	10 µL
Column:	ACQUITY UPLC BEH C <sub>18</sub> 2.1 x 50 mm, 1.7 µm
Mobile Phase A:	0.1% HCOOH in H <sub>2</sub> O
Mobile Phase B:	0.1% HCOOH in MeOH
Flow Rate:	0.3 mL /min
Injection Volume:	10.0 µ L
Column Temperature:	40 °C
Sample Temperature:	10 °C
Instrument:	ACQUITY UPLC with Quattro Premier

## Gradient:

Time (min)	Profile
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	%A
--	----

0.0	60
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1.0	60
-----	----

1.5	0
-----	---

3.5	0
-----	---

4.0	60
-----	----

4.5	60
-----	----

Quattro Premier

ESI+

Capillary:	3.5 kV
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Source Temp.:	120 °C
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Desolvation Temp.:	350 °C
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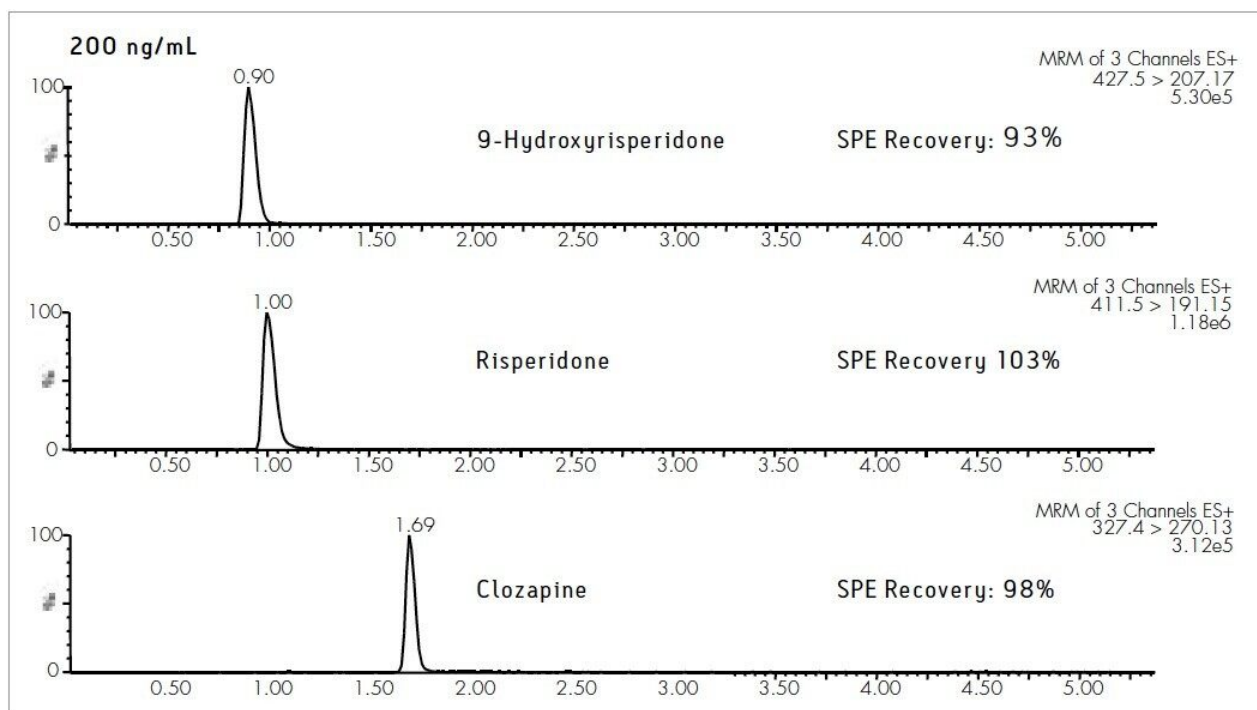
Cone Gas Flow:	0 L /Hr
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Desolvation Gas Flow:	700 L /Hr
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Collision Cell Pressure:	2.59 e <sup>-3</sup> mbar
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Compound	Precursor Ion m/z	Product Ion m/z	Cone Voltage (V)	Collision Energy (eV)
Risperidone	411.5	191	40	30
9-Hydroxy risperidone	427.5	207	40	30
Clozapine	327.4	270	35	25

## Results and Discussion



## Featured Products

ACQUITY UPLC System <<https://www.waters.com/514207>>

WA60088, June 2007

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