

Application Note

Gradient Separation of Morphine and Metabolites on Atlantis HILIC Silica

Waters Corporation



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

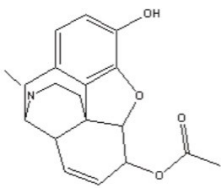
Abstract

This application brief demonstrates the gradient separation of morphine and its metabolites on Atlantis HILIC Silica column.

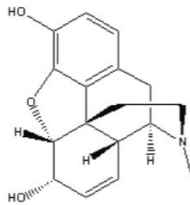
Introduction

The compounds used in this study are-

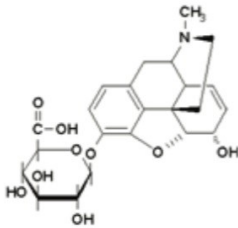
1. 6-Acetylmorphine
2. Morphine
3. Morphine-3 β -D-glucuronide



6-Acetylmorphine



Morphine



Morphine-3 β -D-glucuronide

Figure 1. Structures of the compounds used in this study.

Experimental

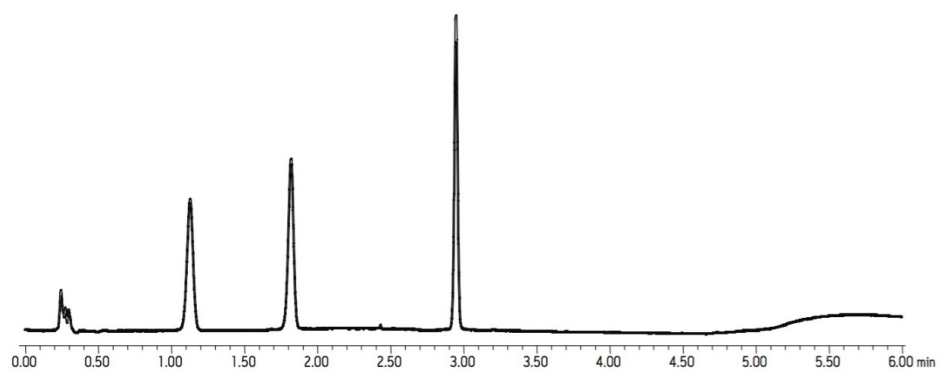
Test Conditions

Column:	Atlantis HILIC Silica, 2.1 x 50 mm, 3 μ m
Part Number:	186002011
Mobile Phase A:	10 mM NH_4COOH in H_2O , 0.125% HCOOH in 50:50 $\text{ACN}:\text{H}_2\text{O}$
Mobile Phase B:	10 mM NH_4COOH in H_2O , 0.125% HCOOH in 90:10 $\text{ACN}:\text{H}_2\text{O}$
Flow Rate:	0.6 mL/min
Injection Volume:	5 μ L
Sample Concentration:	25 μ g/mL each
Sample Diluent:	75:25 $\text{ACN}:\text{MeOH}$ with 0.2% HCOOH
Column Temperature:	30 $^\circ\text{C}$
Detection:	UV @ 280 nm
Sampling Rate:	20 points/sec
Time Constant:	0.1
Instrument:	Waters ACQUITY UPLC with ACQUITY PDA

Gradient:

Time(min)	Profile	
	%A	%B
0.00	0.1	99.9
1.05	0.1	99.9
4.35	99.9	0.1
4.50	0.1	99.9
6.00	0.1	99.9

Results and Discussion



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WA64070, August 2009

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