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Note d'application

ACQUITY UPLC Analysis of Morphine

Waters Corporation

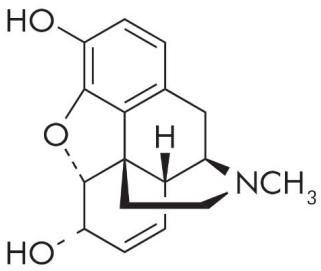
Abstract

This application brief highlights the analysis of morphine on ACQUITY UPLC BEH Amide Columns.

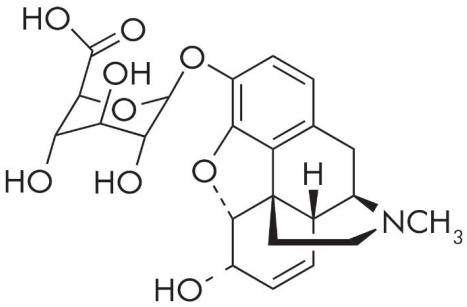
Introduction

The compounds analysed in this study are:

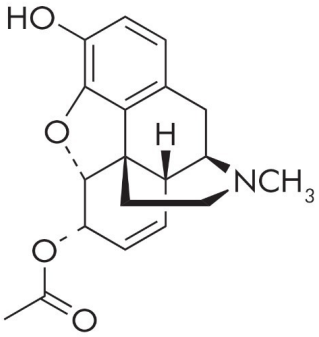
1. 6-acetylmorphine (100 ng/mL)
2. Morphine (100 ng/mL)
3. Morphine-3 ß-D-glucuronide (5 g/mL)



Morphine



Morphine-3ß-D-glucuronide



6-acetylmorphine

Experimental

Chromatographic Conditions

Column:	ACQUITY UPLC BEH Amide, 2.1 x 50 mm, 1.7 µm
Part Number:	186004800
Mobile Phase A:	50/50 MeCN/H_2O with 10 mM NH_4COOH and 0.125% HCOOH, pH 3

Mobile Phase B:	90/10 MeCN/H_2O with 10 mM NH_4COOH and 0.125% HCOOH, pH 3
Flow Rate:	0.6 mL/min
Injection Volume:	5 µL (PLNO)
Sample Diluent:	75/25 MeCN/MeOH with 0.2% HCOOH
Column Temperature:	30 °C
Weak Needle Wash:	95/5 MeCN/H_2O
Instrument:	Waters ACQUITY UPLC with ACQUITY SQD

Gradient

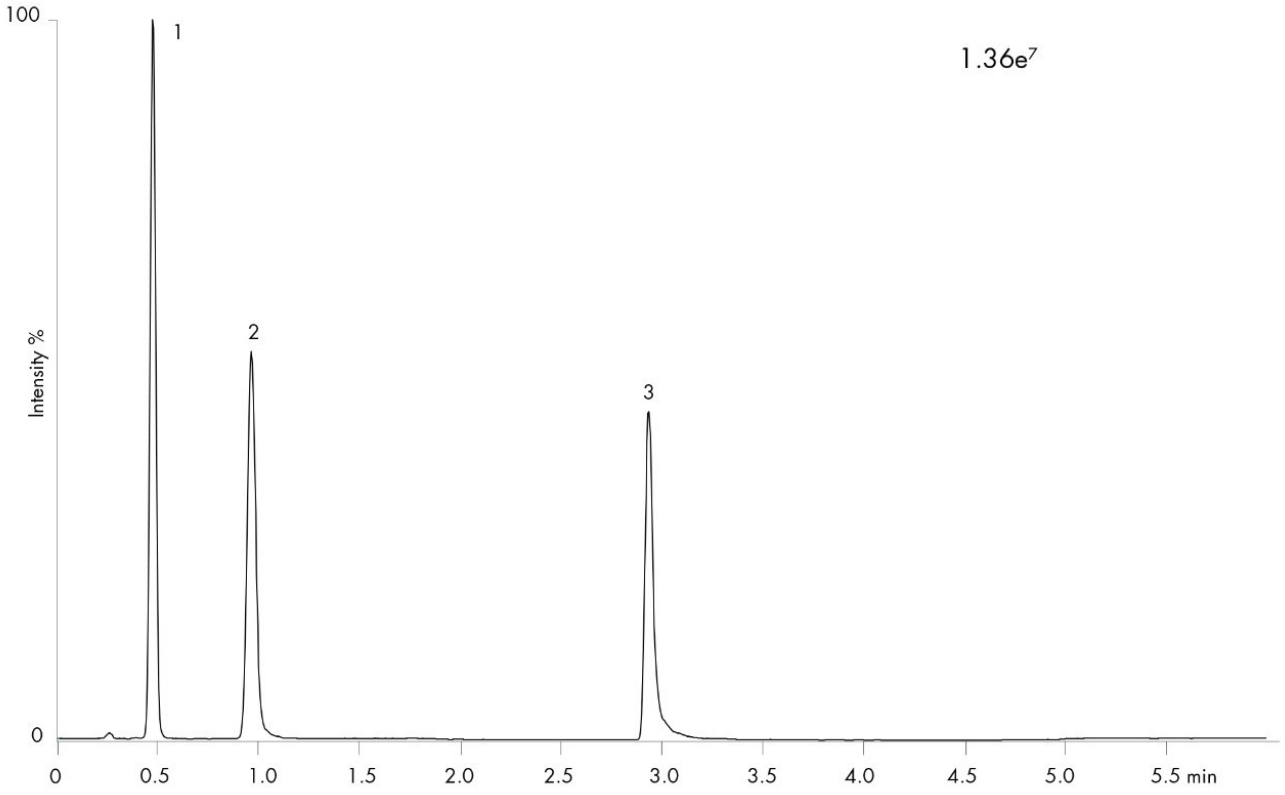
Time (min)	Profile	
	%A	%B
Initial	0.1	99.9
1.05	0.1	99.9
4.35	99.9	0.1
4.50	0.1	99.9
6.00	0.1	99.9

Mass Spectrometer Conditions

Ionization Mode:	ES+
Capillary:	3.0 KV

Cone:	30 V (6-Acetyl morphine and Morphine), 40 V (Morphine-3β-D-glucuronide)
Source Temperature:	120 °C
Desolvation Temperature:	350 °C
Desolvation Gas Flow (L/Hr):	800
SIR *m/z:*	329.5 (6-Acetyl morphine); 287.5 (Morphine) 463.6 (Morphine-3β-D-glucuronide)
Dwell Time:	0.1 s

Results and Discussion



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