# Waters™

#### Applikationsbericht

# **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)

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<sub>2</sub>O with 10 mM NH<sub>4</sub>COOH and

0.125% HCOOH, pH 3

Mobile Phase B: 90/10 MeCN/H<sub>2</sub>O with 10 mM NH<sub>4</sub>COOH and

0.125% HCOOH, pH 3

Flow Rate: 0.6 mL/min

Injection Volume:  $5 \mu L (PLNO)$ 

Sample Diluent: 75/25 MeCN/MeOH with 0.2% HCOOH

Column Temperature: 30 °C

Weak Needle Wash: 95/5 MeCN/H<sub>2</sub>O

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

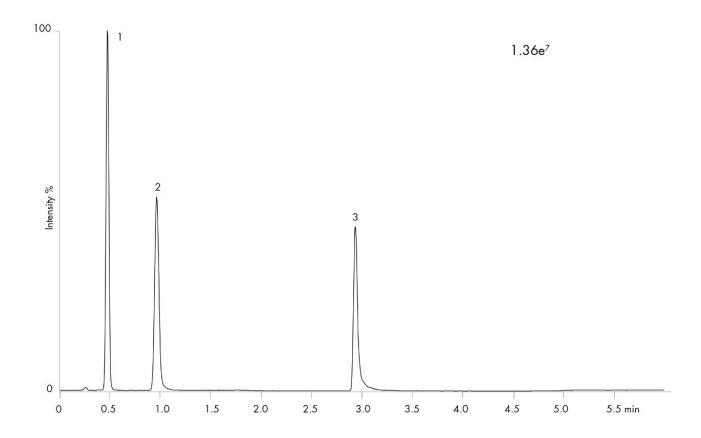
SIR *m/z*: 329.5 (6-Acetyl morphine);

287.5 (Morphine)

463.6 (Morphine-3β-D-glucuronide)

Dwell Time: 0.1 s

## Results and Discussion



## Featured Products

SQ Detector 2 <a href="https://www.waters.com/134631584">https://www.waters.com/134631584</a>

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