

## Morphine and Its Glucuronide Metabolites in Serum

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Waters Corporation



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

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### Abstract

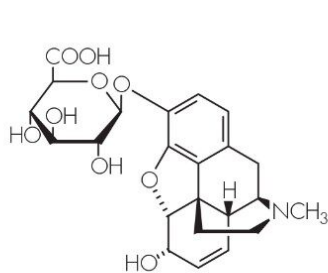
This application brief demonstrates analysis of morphine and its glucuronide metabolites in serum.

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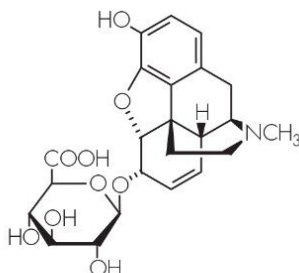
## Introduction

The compounds used in this study are -

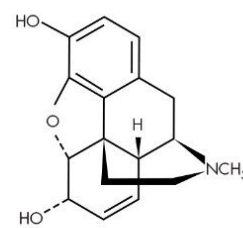
1. Morphine-D3-glucuronide
2. Morphine-D6-glucuronide
3. Morphine



**1. Morphine-D3-glucuronide**



**2. Morphine-D6-glucuronide**



**3. Morphine**

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## Experimental

### HPLC Method

Column:	Symmetry Shield RP <sub>8</sub> , 3.9 x 150 mm, 5 µm
Part number:	WAT200655
Mobile phase:	20 mM potassium phosphate, pH 6.4

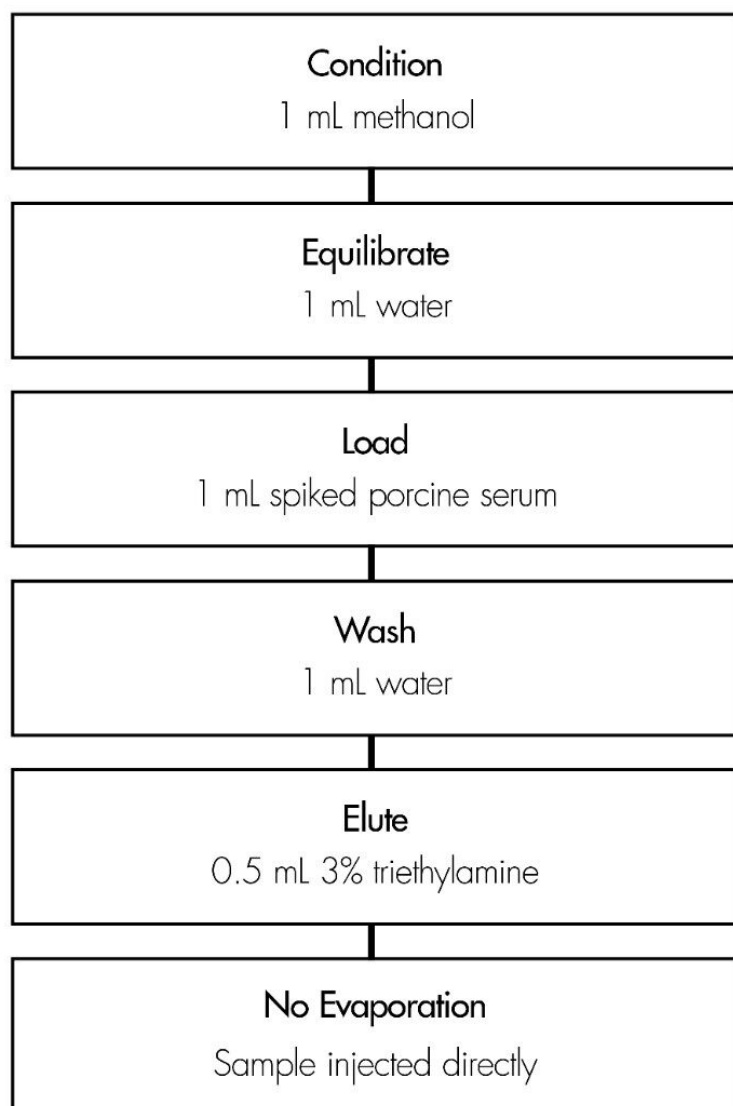
Flow rate: 1.0 mL/min

Injection volume: 100 µL of porcine serum extract

Detection: Fluorescence; ex 280 nm, em 355 nm

## Oasis® HLB Extraction Method

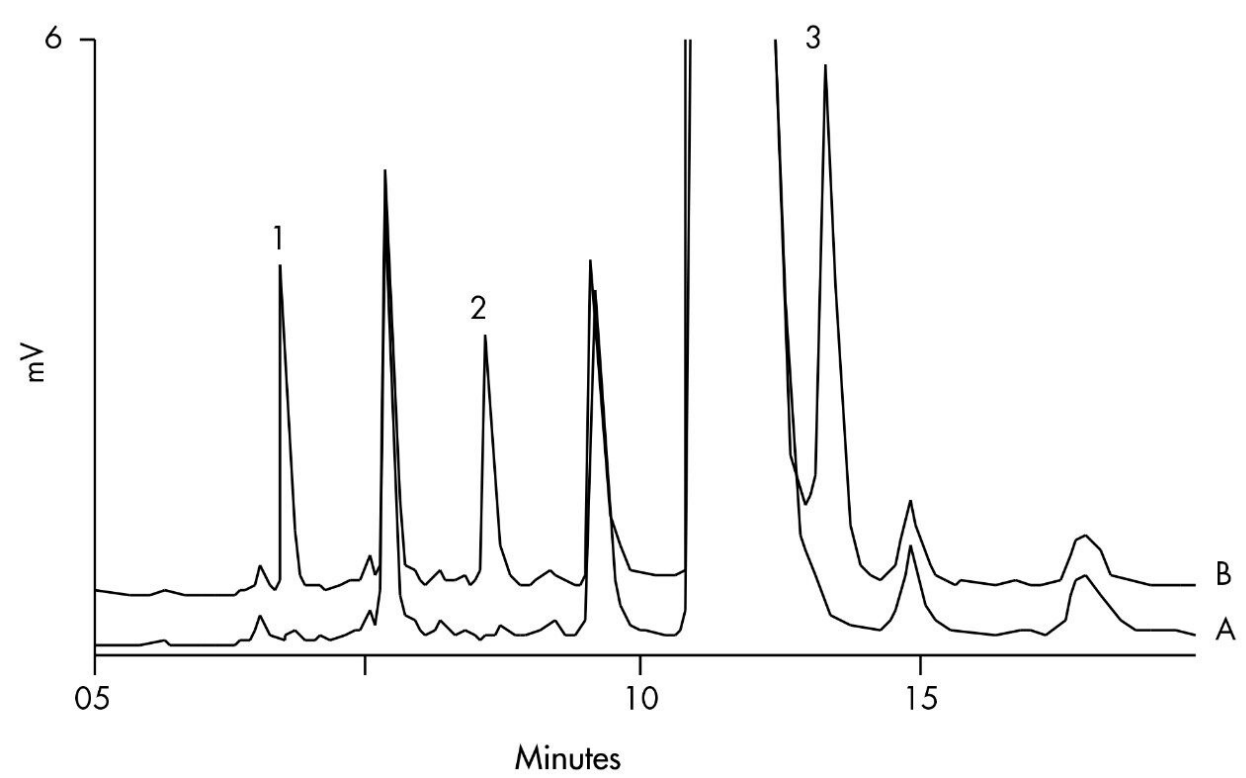
Oasis® HLB 1 cc/30 mg Extraction Cartridge  
Part Number WAT094225



Results and Discussion

Compound	Concentration µg/mL	% Recovery	%RSD (n=6)
Morphine-D3-glucuronide	0.48	90.7	2.0
	0.097	100	3.1
Morphine-D6-glucuronide	2.4	92.2	2.8
	0.49	93.1	2.5
Morphine	3.6	102	3.6
	0.73	102	3.2

Chromatogram of Serum Extracts: A) Blank B) Spiked Sample



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