

Morphine and Its Glucuronide Metabolites in Serum

Waters Corporation



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

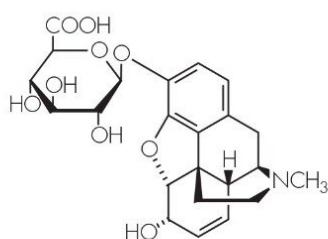
Abstract

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

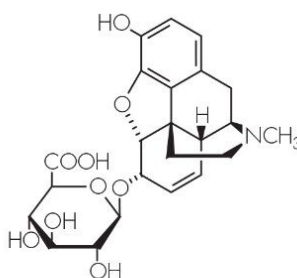
Introduction

The compounds used in this study are -

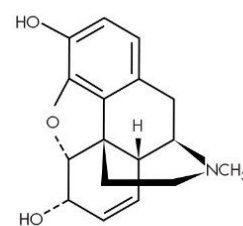
1. Morphine-D3-glucuronide
2. Morphine-D6-glucuronide
3. Morphine



1. Morphine-D3-glucuronide



2. Morphine-D6-glucuronide



3. Morphine

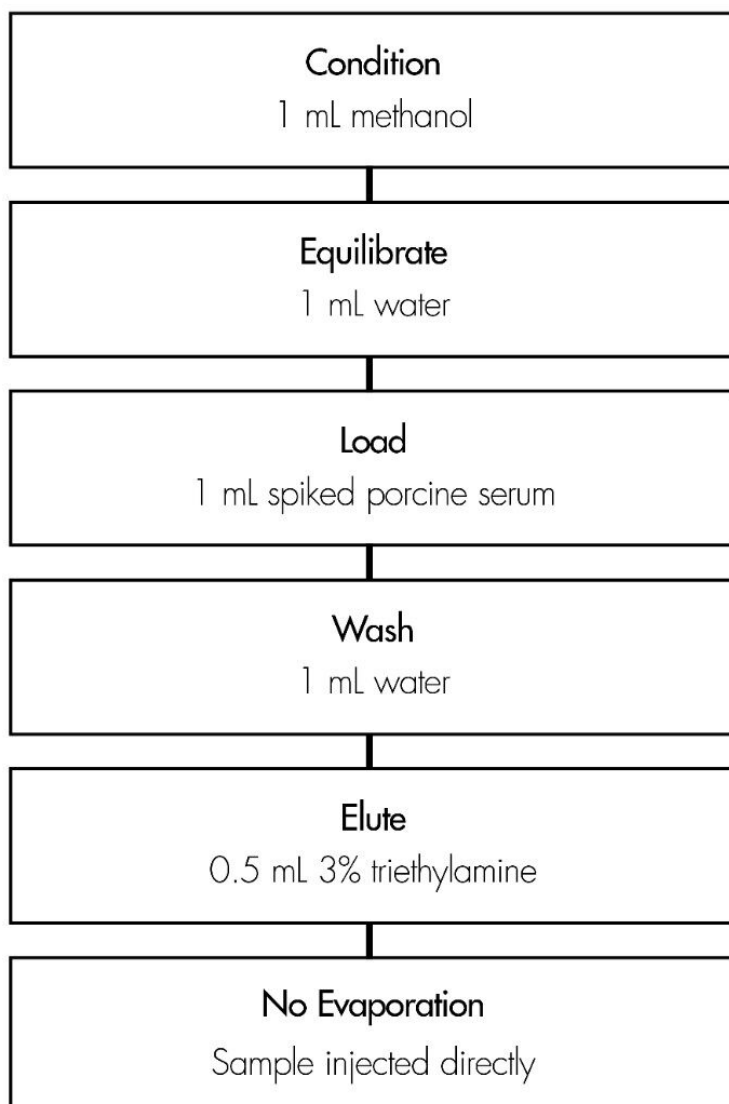
Experimental

HPLC Method

Column:	Symmetry Shield RP ₈ , 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

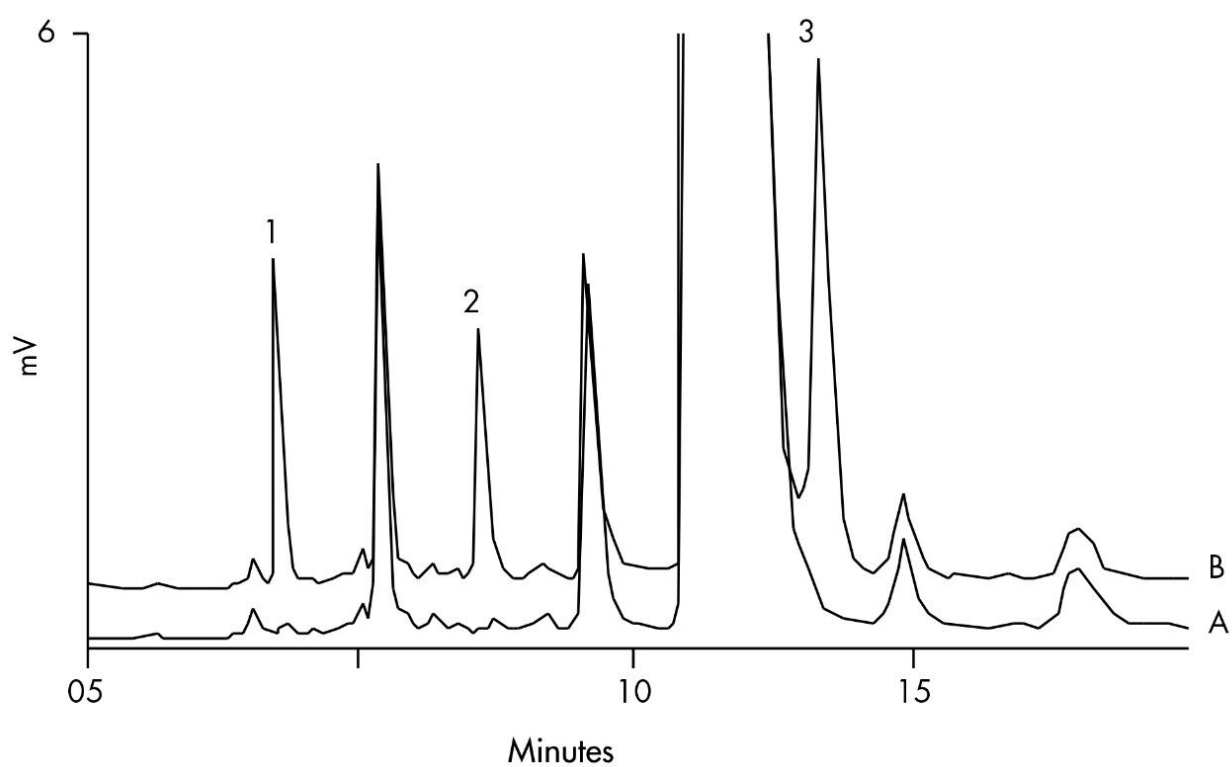
Oasis® HLB 1 cc/30 mg Extraction Cartridge
Part Number WAT094225



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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