



Alkaloids in Goldenseal - Commercial Products or Whole Leaf

Waters Corporation



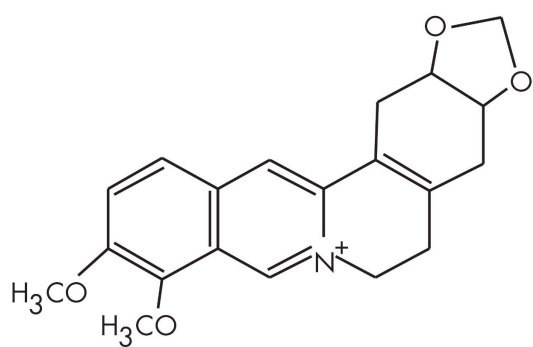
This is an Application Brief and does not contain a detailed Experimental section.

Abstract

This application brief demonstrates analysis of alkaloids in goldenseal.

Introduction

The compound analyzed in this study is berberine.



BERBERINE

Experimental

HPLC Conditions

Column:	Symmetry C ₁₈ , 4.6 x 250 mm, 5 μm
Part number:	WAT054275
Mobile phase A:	0.1% phosphoric acid
Mobile phase B:	Acetonitrile
Flow rate:	1.5 mL/min

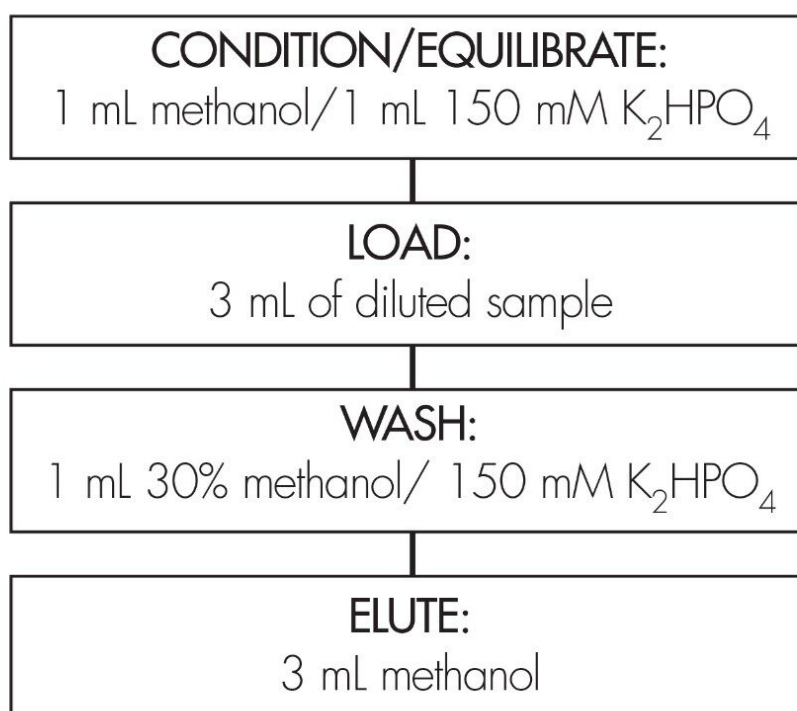
Injection volume: 10 µL
Temperature: 35 °C
Detection: UV @ 330 nm

Gradient

Time (min)	Profile	
	%A	%B
0	90	10
13	78	22
40	60	40

OASIS® HLB METHOD FOR ALKALOIDS IN GOLDENSEAL

Conditions for Oasis® HLB Cartridge, 3 cc/60 mg
Part Number WAT094226



Herbal tea extract
before SPE cleanup



Herbal tea extract after SPE cleanup using
Oasis® MAX

Sample Pre-preparation

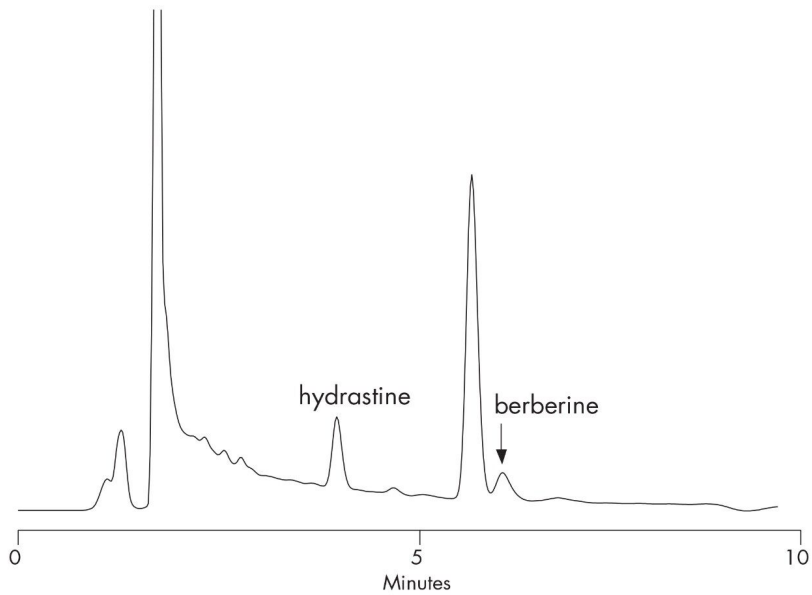
100 mg sample is extracted with 25 mL of ethanol:water (70:30) 1 mL of the ethanolic extract is diluted 1:3 with water (~ pH 7)

- Recovery, measured with certified standards at 100 ppm in reagent water, was greater than 85 % for all

compounds

- All analyses gave results within $\pm 35\%$ of the expected values with the exception of the liquid supplement (see goldenseal analysis)
- The selective SPE extraction and cleanup procedure provided a convenient analysis of echinacea phenolics in complex matrix such as in herbal tea

Results and Discussion



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