

응용 자료

## Alkaloids in Goldenseal

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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 highlights the analysis of alkaloids in goldenseal using Symmetry C<sub>18</sub> Columns.

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## Introduction

Alkaloids in goldenseal is analyzed in this application brief.

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## Experimental

### Sample 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



**Herbal tea extract  
before SPE cleanup**



**Herbal tea extract after SPE cleanup  
using Oasis® MAX**

### HPLC Method

Column:

Symmetry C<sub>18</sub>, 4.6 x 250 mm, 5 µm (p/n:  
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

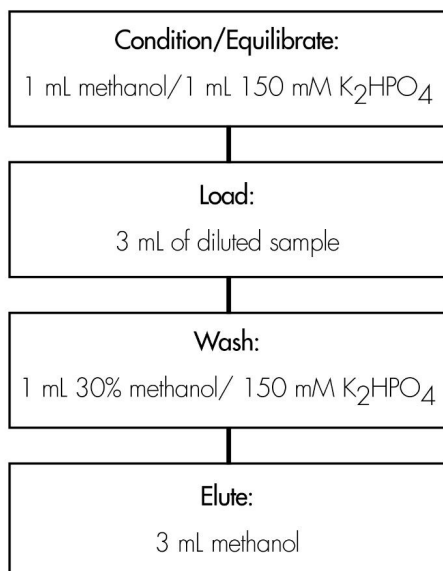
## Gradient

| Time<br>(min) | Profile |    |
|---------------|---------|----|
|               | %A      | %B |
| 0             | 90      | 10 |
| 13            | 78      | 22 |
| 40            | 60      | 40 |

## Oasis® HLB method for alkaloids in Goldenseal

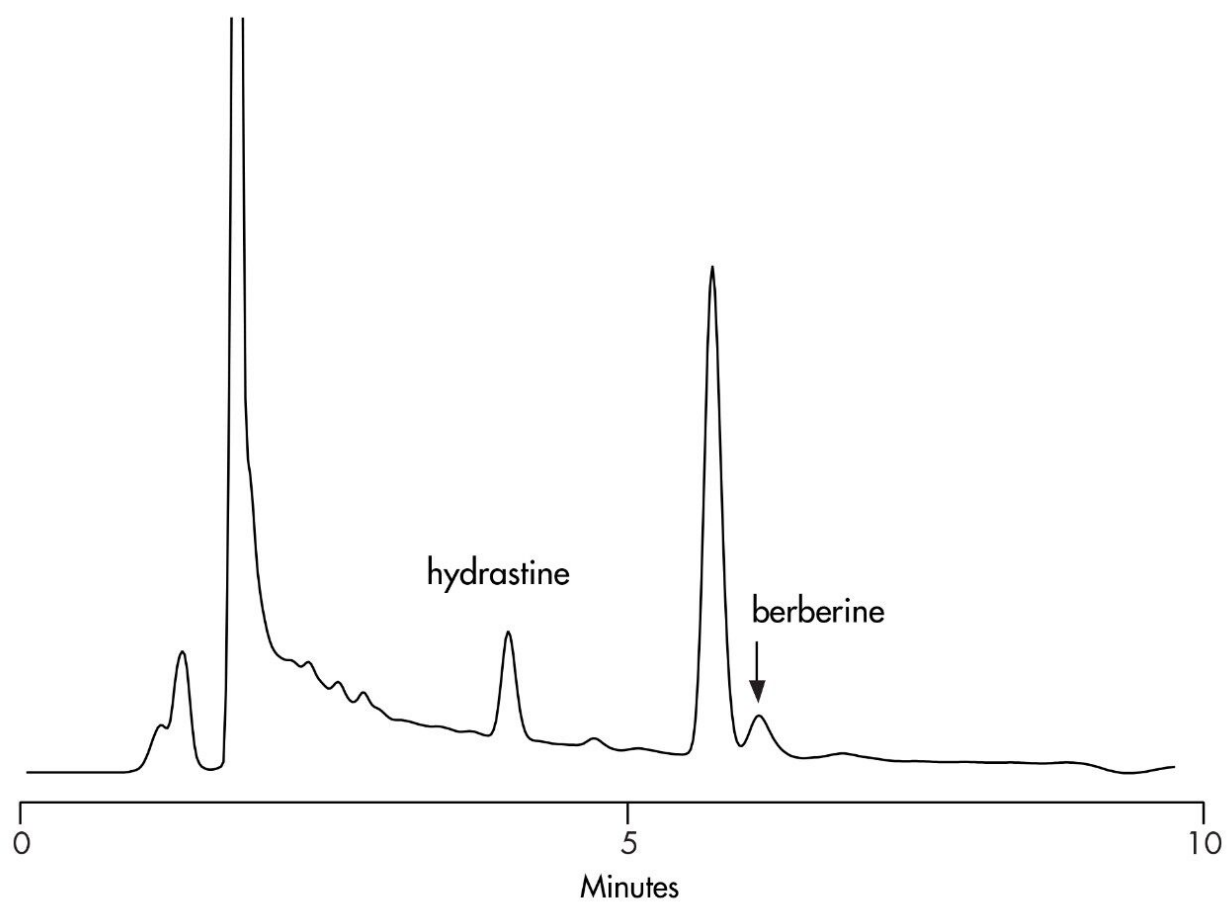
Conditions for Oasis® HLB cartridge, 3 cc, 60 mg

Part Number WAT094226



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## Results and Discussion



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## Featured Products

WA31763.20, June 2003