

0028 - Goldenseal for Alkaloids by HPLC

Botanical Name: *Hydrastis canadensis*

Common Names: Orange-root, Orangeroot, Yellow Root, Yellow Puccoon, Ground Raspberry, Indian Dye, Eye Root, Jaundice Root

Plant Description:

Hydrastis canadensis is a long-lived perennial plant native to deep wooded areas in North America. The root system is composed of a horizontal rhizome covered with a mass of bright yellow rootlets. Mature plants grow to 10cm tall with two or more stems forking with two leaves. Plants can either be seeded via berries dropping off the plant and rotting or from sections of the root being removed from the plant and transplanted.

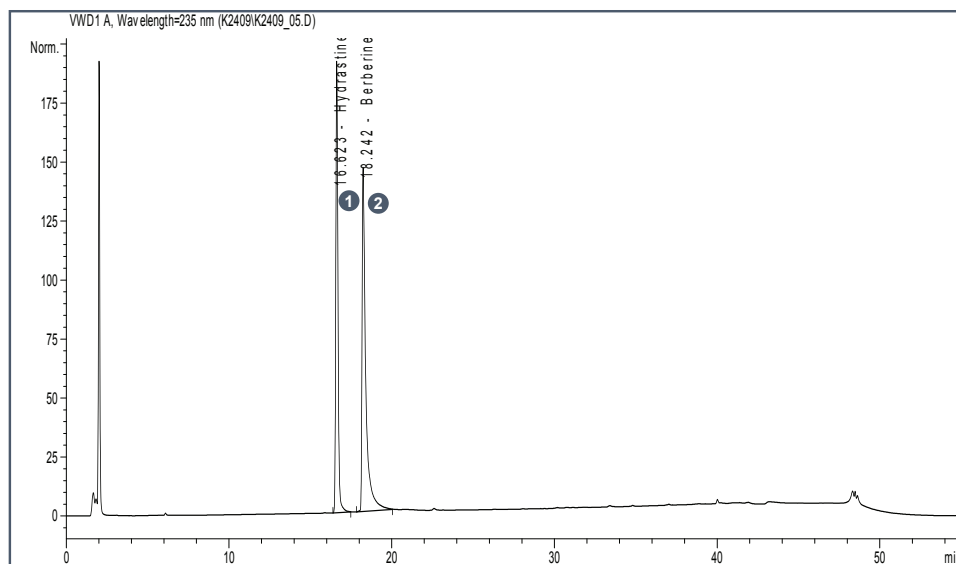


Therapeutic Use Overview:

Goldenseal has been used for its medicinal properties for hundreds of years. The alkaloids hydrastine and berberine are present in concentrations of 2 to 10% and are attributed with the major medical effects of the plant extract. Native Americans used golden seal as an antiseptic and applied it to snakebites to remove poisons.

Early American settlers used it primarily as eyewash, but also to treat sore throats and mouth sores. Modern medicine has shown that berberine is in fact an effective antibacterial agent but may also stimulate the immune system.

Representative HPLC Analysis: Mixed Standard Solution



Analytes:

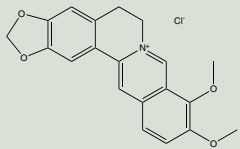
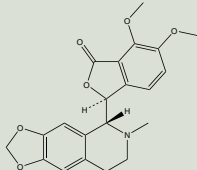
① Hydrastine, ② Berberine

Instrument Parameters

Column: Agilent Zorbax Eclipse XDB-C8, 150 x 4.6 mm, 5 μm
Detection: UV-Vis @235 nm
Flow Rate: 0.800 mL/min
Injection Volume: 20 μL
Temperature: 25°C
Mobile Phase A: PIC[®] B-8 in H₂O (1 Vial per 1L)
Mobile Phase B: MeOH

Time (min)	%A	%B
0	70	30
1	70	30
40	0	100
45	0	100
50	70	30
55	70	30

Phytochemical Reference Standards

Product Description And Details	Product ID	Qty
 <p>BERBERINE CHLORIDE Grade: AHP CAS#: [633-65-8] Chemical Formula: C₂₀H₁₈NO₄.Cl FW: 371.81</p>	ASB-00002201-010 ASB-00002201-025 ASB-00002201-100	10mg 25mg 100mg
 <p>HYDRASTINE, (-)-B- Grade: AHP CAS#: [118-08-1] Chemical Formula: C₂₁H₂₁NO₆ FW: 383.39</p>	ASB-00008350-010 ASB-00008350-025 ASB-00008350-100	10mg 25mg 100mg

Reference Standard Kits

Product Name	Contents	Product ID	Qty
GOLDENSEAL HPLC KIT	BERBERINE CHLORIDE(AHP) GOLDENSEAL HPLC METHOD HYDRASTINE, (-)-B-(AHP) LUNA 5U C18(2) 150X4.6	KIT-00007430-0HK	2 x 25mg +M+C vials
GOLDENSEAL STANDARDS KIT(AHP)	BERBERINE CHLORIDE(AHP) HYDRASTINE, (-)-B-(AHP)	KIT-00007520-025	2 x 25mg vials

Botanical Reference Materials

Product Description	Grade	Product ID	Qty
GOLDENSEAL (HYDRASTIS CANADENSIS) LEAF	VBRM	ASB-00030786-005	5g
GOLDENSEAL (HYDRASTIS CANADENSIS) ROOT RHIZOME	BRM	ASB-00030829-005	5g
GOLDENSEAL (HYDRASTIS CANADENSIS) ROOT	VBRM	ASB-00035930-005	5g
GOLDENSEAL (HYDRASTIS CANADENSIS) ROOT	XRM	ASB-00035931-005	5g

Monographs

Product Description	Product ID	Qty
AHP GOLDENSEAL ROOT MONOGRAPH	ASB-00040300-00B	1 book