



Alkemist Labs Verified Botanical Reference Material by HPTLC Fingerprint - Certificate of Authenticity

Botanical Nomenclature: *Caulophyllum thalictroides* (L.) Michx. [Berberidaceae] **Analysis by:** N. Afendikova, K. Montoya, N. Alvarez, J. Mares, D. Robinson, K. Tran

Common name: Blue Cohosh **Method:** HPTLC Association

Plant Part: Root

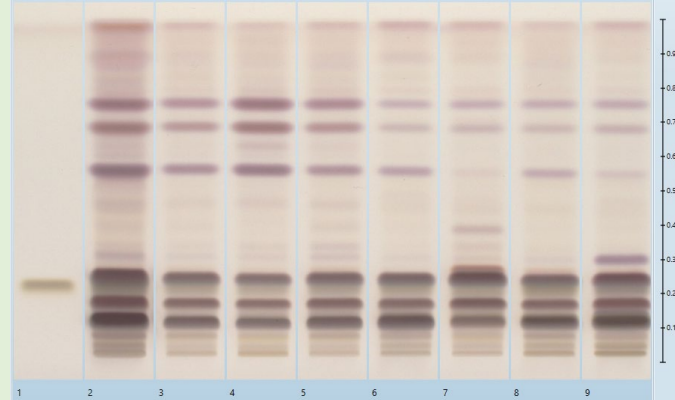


Plate Image 1: Derivatized with 10% Sulfuric Acid Reagent, visible light

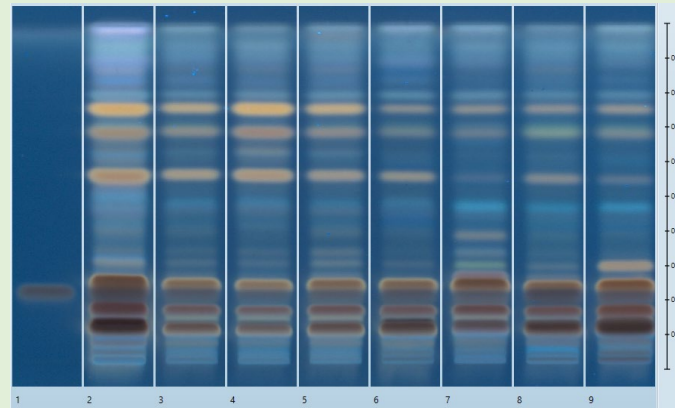


Plate Image 2: Derivatized with 10% Sulfuric Acid Reagent, UV 366 nm

Plate Images 1-2 Track Assignment				
Track	Sample	Part	Sample#	µL
1	D-(-)-Fructose	N/A	N/A	2
2	<i>Caulophyllum thalictroides</i>	Root	Lot # RK-3-21-1-CT	3
3	<i>Caulophyllum thalictroides</i>	Root	PA32814PHERBS1	3
4	<i>Caulophyllum thalictroides</i>	Root	PA21301TH	3
5	<i>Caulophyllum thalictroides</i>	Root	PA01107AB	3
6	<i>Caulophyllum thalictroides</i>	Root	20349FUK	1
7	<i>Caulophyllum thalictroides</i>	Root	19063QXR	3
8	<i>Caulophyllum thalictroides</i>	Root & Rhizome	PA12504BMX	3
9	<i>Caulophyllum thalictroides</i>	Root & Rhizome	19063YYN	3

Method Testing Parameters

Sample Preparation:
 0.3g+3mL Methanol, sonicate/heat at 50°C for 30 min.

Mobile Phase:
 Dichloromethane/Methanol/Water (7/3/0.4; v/v/v)

Derivatization Reagents:
 10% Sulfuric Acid:
 50 mL Sulfuric Acid in 450 mL Ethanol.

Comments and Conclusions: The extracted sample solution in track 2 shows a fingerprint similar to the extracted botanical reference material solutions of *Caulophyllum thalictroides* root (tracks 3, 4, 5, 6, 7, 8, 9) with respect to number, position, color and intensity of bands. Zones of varying intensities are present as well as the presence of zones not present in the botanical reference material tracks. The above conclusion may be a function of the natural variance found in botanicals. The growing and drying conditions, age, seasonal variations, geographic location, etc. all play a role in the phytochemical fingerprint of botanicals as well as their extracts; hence, chromatographic variations are expected. **This test sample Lot # RK-3-21-1-CT (Lane 2) has characteristics of a customized extract derived from *Caulophyllum thalictroides* root.**



Analyzed by: Khanh Tran
 Examined, Reviewed & Authorized by: Sidney Sudberg, Chief Scientific Officer

Report Date: 07/28/23

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