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

Botanical Nomenclature:	*Ephedra sinica* Stapf. [Ephedraceae] (Ma Huang)	Analysis by:	L. Tang, J. Mares, N. Alvarez, K. Tran
Common name:	Ephedra	Method:	Plant Drug Analysis, Wagner, H., 1996
Plant Part:	Herb		

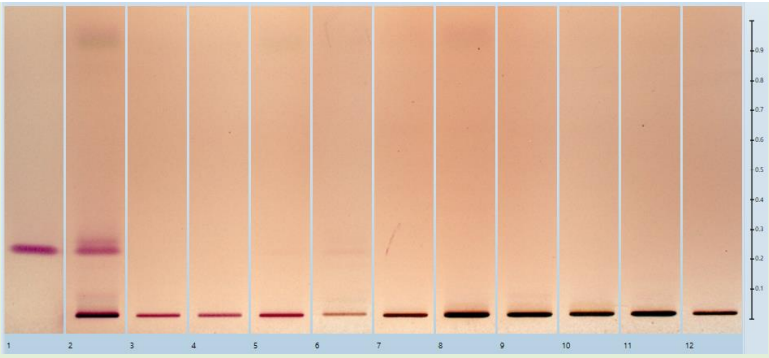

Plate Image 1: Derivatized with Ninhydrin Reagent, visible light

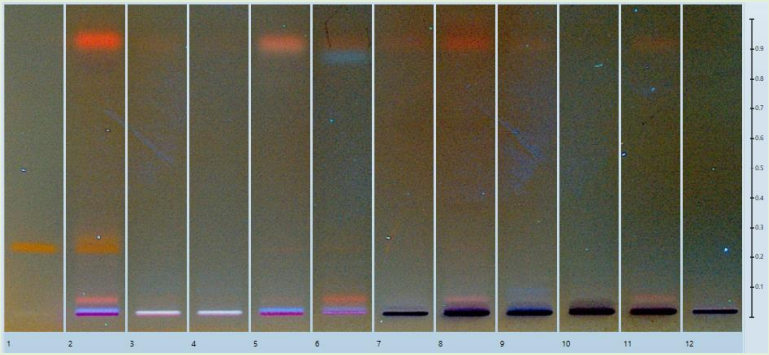

Plate Image 2: Derivatized with Ninhydrin Reagent, UV 366 nm

Plate Images 1-2 Track Assignment

Track	Sample	Part	Sample#	µL
1	(-) Ephedrine hydrochloride	N/A	N/A	3
2	Ephedra sinica	Herb	Lot# RK-3-28-1-ES	0.5
3	*Ephedra sinica*	Stem	GD12817AHP1	3
4	*Ephedra sinica*	Stem	GD08416AHP2	3
5	*Ephedra americana*	Stem	GD21518HH1	3
6	*Ephedra americana*	N/A	ANB26409INCA2	3
7	*Ephedra nevadensis*	Herb	YB00504WB2	3
8	*Ephedra nevadensis*	Herb	YB22409AB	3
9	*Ephedra nevadensis*	Stem	YB12817AHP1	3
10	*Ephedra sp.*	Stem	LGG08416AHP1	3
11	*Ephedra torreyana*	Stem	LGF12817AHP1	3
12	*Ephedra viridis*	Stem	JCE08416AHP1	3

Method Testing Parameters

Sample Preparation:
0.3g+3mL 100% grain Ethanol, sonicate/heat at 50°C for 30 min.

Mobile Phase:
Ethyl Acetate/Cyclohexane/Methanol/Ammonia (7/1.5/1/0.5; v/v/v/v)

Derivatization Reagents:
Ninhydrin:
30 mg Ninhydrin in 9.7 mL 1-butanol and 0.3 mL Acetic Acid.

Comments and Conclusions: The extracted sample solution in track 2 has a chromatographic band/data pattern consistent with the reference standard of (-) Ephedrine (track 1) with respect to number, position, color, and intensity of bands. Zones of varying intensities are present. **This test sample Lot # RK-3-28-1-ES (Lane 2) indicates the presence of (-) Ephedrine.**

ISO/IEC 17025
ACCREDITED
CERTIFICATE #3851.01

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

Dr. Sidney Sudberg President & CSO
Digitally signed by Sidney Sudberg
Date: 2023.08.01 14:37:33 -07'00'

Report Date: 07/31/23