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

Botanical Nomenclature: *Camellia sinensis* (L.) Kuntze [Theaceae]

Analysis by: M. Fox, K. Montoya, N. Alvarez, J. Mares, L. Tang, K. Tran

Common name: Green Tea

Method: BTM-715-0004

Plant Part: Leaf

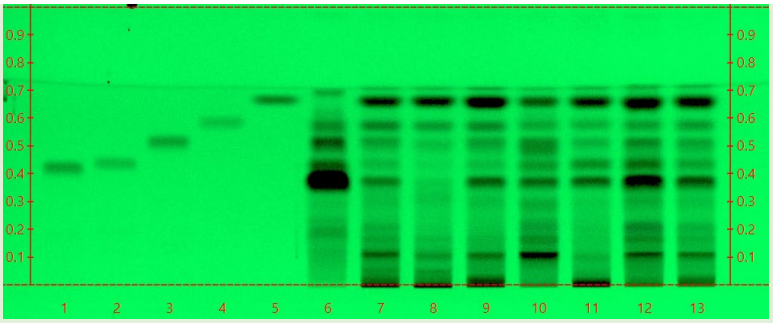

Plate Image 1: Developed, UV 254 nm

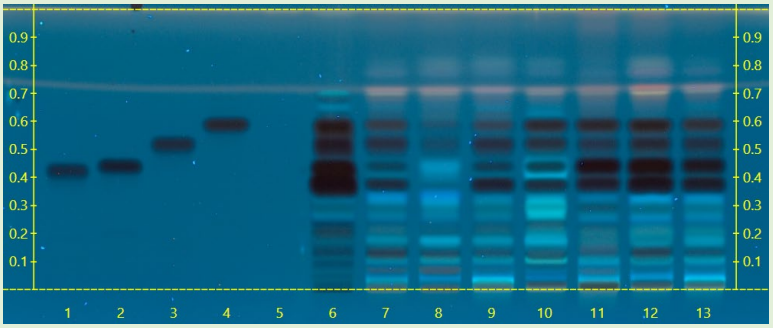

Plate Image 2: Derivatized with Vanillin/Sulfuric Acid Reagent, UV 366 nm

Plate Images 1-2 Track Assignment

Track	Sample	Part	Sample#	µL
1	(-)-EpiCatechin	N/A	N/A	3
2	(-)-Epicatechin Gallate	N/A	N/A	3
3	(-)-Epigallocatechin	N/A	N/A	3
4	(-)-Gallocatechin gallate	N/A	N/A	3
5	Caffeine	N/A	N/A	3
6	*Camellia sinensis*	Leaf	Lot # 20S0293200	1
7	*Camellia sinensis*	Leaf	20042LVX	3
8	*Camellia sinensis*	Leaf	20042CYM	3
9	*Camellia sinensis*	Herb	IM21604SW	3
10	*Camellia sinensis*	Leaf	19063XRO	3
11	*Camellia sinensis*	Leaf	IM12212CS1	3
12	*Camellia sinensis*	Leaf	IM21004PB	3
13	*Camellia sinensis*	Aerial Part	IM15209CRB	3

Method Testing Parameters

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

Mobile Phase:
Toluene/Acetone/Formic Acid (4.5/4.5/1); No Saturation

Derivatization Reagents:
Vanillin/Sulfuric Acid:
900 mg Vanillin in 255 mL Methanol and 9 mL Sulfuric Acid.

Comments and Conclusions: The extracted sample solution in track 6 shows a fingerprint similar to the extracted botanical reference material solutions of *Camellia sinensis* leaf (tracks 7, 8, 9, 10, 11, 12, 13) 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 # 20S0293200 (Lane 6) has characteristics of a customized extract derived from *Camellia sinensis* leaf.**

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: 2023.07.28 14:33:24 -07'00'

Report Date: 07/28/23