



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

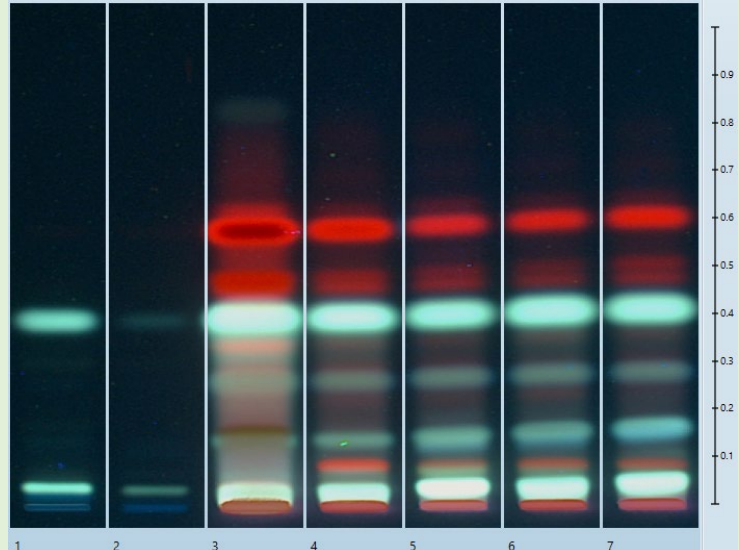
**Botanical Nomenclature:** *Mitragyna speciosa*

**Analysis by:** N. Afendikova, K. Montoya, N. Alvarez, L. Tang, K. Tran

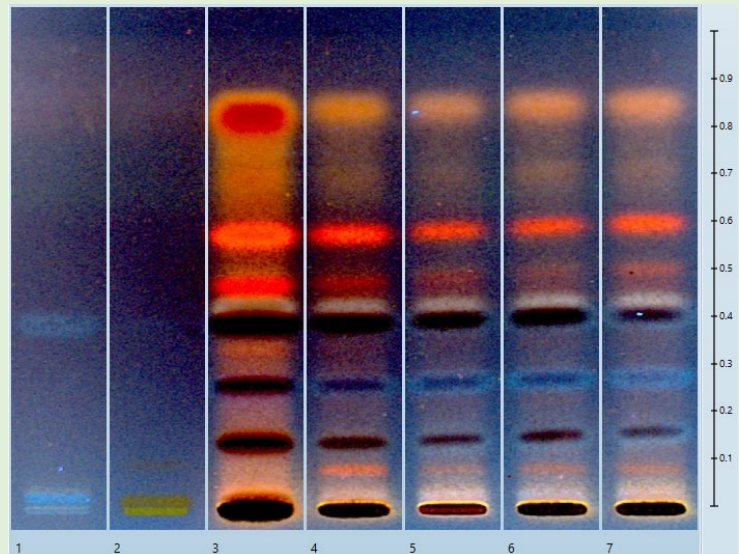
**Common name:** Kratom

**Method:** Indonesian FDA, in-house method for analysis of Kratom

**Plant Part:** Leaf



**Plate Image 1:** Derivatized with Anisaldehyde Reagent, visible light



**Plate Image 2:** Derivatized with Anisaldehyde Reagent, UV 366 nm

#### Plate Images 1-2 Track Assignment

Track	Sample	Part	Sample#	µL
1	Mitragynine	N/A	N/A	3
2	Mitraphylline	N/A	N/A	3
3	<i>Mitragyna speciosa</i>	Leaf	Lot # RK-3-25-1-MS	3
4	<i>Mitragyna speciosa</i>	Leaf	WO12515KMD1	3
5	<i>Mitragyna speciosa</i>	Leaf	WO12515KMD2	3
6	<i>Mitragyna speciosa</i>	Leaf	WO14118KMD2	3
7	<i>Mitragyna speciosa</i>	herb leaf, stem)	WO08909MIC	3

#### Method Testing Parameters

**Sample Preparation:**

0.3g+3 mL 95% grain Ethanol, sonicate/heat at 50° C for 30 min.

**Mobile Phase:**

Cyclohexane/Ethyl Acetate/Ammonia (7.5/3.75/0.25; v/v/v)

**Derivatization Reagents:**

Anisaldehyde:

170 mL chilled Methanol mixed with 20 mL Acetic Acid, 10 mL Sulfuric Acid, and 1 mL p-Anisaldehyde.

#### Comments and Conclusions:

The extracted sample solution in track 3 shows a fingerprint similar to the extracted botanical reference material solutions of *Mitragyna speciosa* leaf (tracks 4, 5, 6, 7) with respect to number, position, color and intensity of bands. Zones of varying intensities are present. 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-3-22-1-PM (Lane 3) has characteristics of a customized extract derived from *Mitragyna speciosa* leaf.**

Analyzed by: Khanh Tran

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

Report Date: 07/28/23

ISO/IEC 17025



ACCREDITED

CERTIFICATE #3851.01

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