



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

Botanical Nomenclature: *Piper methysticum* G.Forst. [Piperaceae] **Analysis by:** N. Afendikova, K. Montoya, N. Alvarez, J. Mares, L. Tang, K. Tran
Common name: Kava **Method:** Plant Drug Analysis, Wagner, H., 1996
Plant Part: Root



Plate Image 1: Derivatized with Vanillin/Sulfuric Acid Reagent, visible light

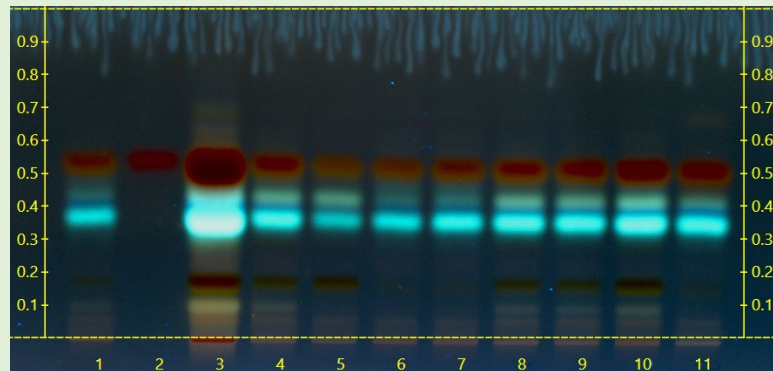


Plate Image 2: Derivatized with Vanillin/Sulfuric Acid Reagent, UV 366 nm

Plate Images 1-2 Track Assignment				
Track	Sample	Part	Sample#	µL
1	USP Kava Extract	N/A	N/A	3
2	D/L-Kavain	N/A	N/A	3
3	<i>Piper methysticum</i>	Root	Lot # RK-3-22-1-PM	3
4	<i>Piper methysticum</i>	Root	TA22209MRH	3
5	<i>Piper methysticum</i>	Root	19312UFJ	3
6	<i>Piper methysticum</i>	Root	19312UFJ	3
7	<i>Piper methysticum</i>	Root	TA07606NTX	3
8	<i>Piper methysticum</i>	Root	TA22509BH	3
9	<i>Piper methysticum</i>	Root	TA24205PB	3
10	<i>Piper methysticum</i>	Root & Rhizome	19262CVH	3
11	<i>Piper methysticum</i>	Rhizome	19312LJT	3

Method Testing Parameters

Sample Preparation:
 0.3g+3 mL 95% grain Ethanol, sonicate/heat at 50° C for 30 min.
 Mobile Phase:
 Water/Acetonitrile/Methanol/Acetic Acid (4/3/3/0.01; v/v/v/v)
 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 3 shows a fingerprint similar to the extracted botanical reference material solutions of *Piper methysticum* root (tracks 4, 5, 6, 7, 8, 9, 10, 11) 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-3-22-1-PM (Lane 3) has characteristics of a customized extract derived from *Piper methysticum* root.**