

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Date of Analysis	2/8/2024	Country of Origin	Tonga
Sample Number	S2067	Country of Processing	United States
Product Name	Tongan Lateral Roots	Manufacture Date	Dec-23
Lot Number	TPG2312-LR	Best By Date	Dec-26

ITEM	SPECIFICATION	TEST RESULTS	METHOD
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PHYSICAL & CHEMICAL

Identification	Piper methysticum	Complies	HPLC
Appearance	Beige to Yellow Powder	Complies	Organoleptic
Kavalactone Standard	2-17 % Kavalactones	13.31%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	426351	HPLC
K/DHM	> 1.2 for Noble	2.3	Calculation

HEAVY METALS

Arsenic (As)	NMT 1,000 (ppb)	79.1 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)	1,040 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)	191 ppb	FDA EAM 4.7
Mercury (Hg)	NMT 1,000 (ppb)	< 10 ppb	FDA EAM 4.7

*Heavy Metals Action Limits Based on Maximum PDE at 5% Kavalactones. Results May Exceed 1,000 ppb action limit with higher kavalactone contents.

MICROBIOLOGICAL

AEROBIC PLATE COUNT	NMT 10,000,000 cfu	41,000 cfu / g	USP 2021
E. COLI	ABSENT (cfu/10g)	Absent / 10 g	USP 2022
PSEUDOMONAS AERUGINOSA	ABSENT (cfu/10g)	Absent / 10 g	USP 2022
SALMONELLA	ABSENT (cfu/10g)	Absent / 10 g	USP 2022
STAPHYLOCOCCUS AUREUS	ABSENT (cfu/10g)	Absent / 10 g	USP 2022
YEAST	NMT 100,000 cfu (Combined)	7,000 cfu / g	
MOLD		80 cfu / g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	7,080 cfu / g	

cfu/g = Colony Forming Units Per Gram NMT = No More Than PDE = Permitted Daily Exposure PPB = Parts Per Billion

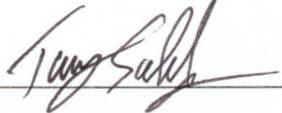
Analysis Performed by a Third-Party Laboratory

We are dedicated to offer the best quality of botanical products on the market. We test and stand behind our products.

*Disclaimer * The test results are accurate to the best of our knowledge and are based upon reputable laboratory and industry standard testing methods.*

These results should not be used as a final determination for use in a finished product. It is recommended that you verify these test results with an in-house quality control department or obtain an additional independent third-party lab to verify that this material meets specifications.

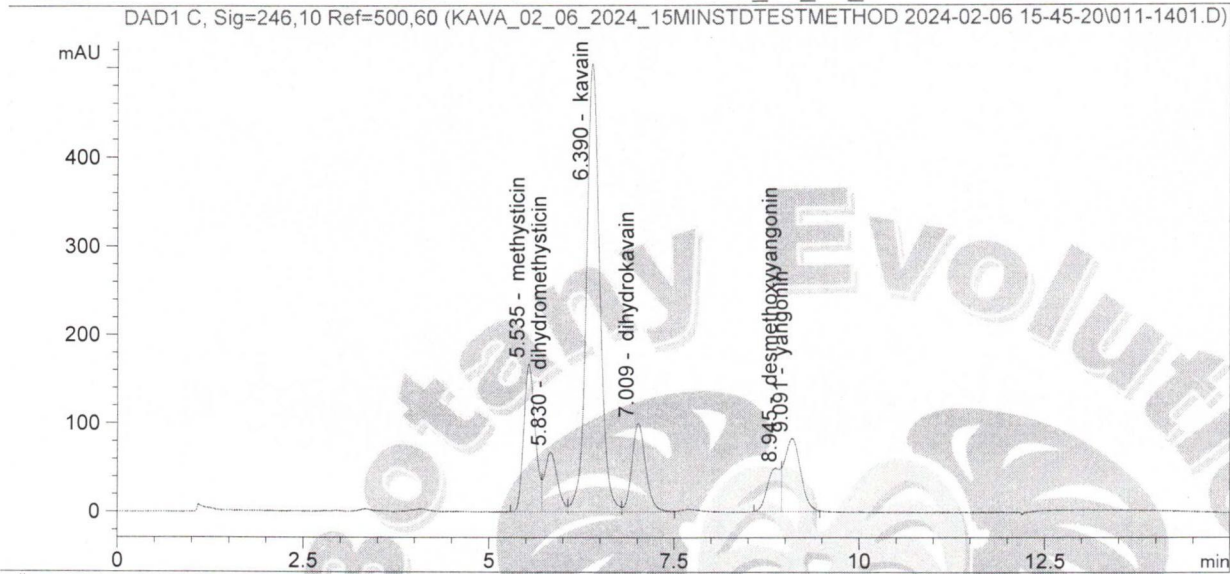
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Completed By:  Title: Manager Signature: 2/9/2024

SAMPLE S2067
Vial 11

0.75412g/50 mL

wavelength 246 nm
C:\CHEM32\1\DATA\KAVA_02_06_2024_15MINSTDTESTMETHOD 2024-02-06 15-45-20\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_02_06_2024_ ->
Injection date 2/6/2024
Injection time 8:52:42 PM
Acq. operator KRISTL
Method C:\CHEM32\1\DATA\KAVA_02_06_202->



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.535	1844.534	15.13	0.000
2	dihydromethysticin	5.830	808.460	6.63	0.000
3	kavain	6.390	6377.254	52.31	0.001
4	dihydrokavain	7.009	1307.857	10.73	0.000
5	desmethoxyyangonin	8.945	602.981	4.95	0.000
6	yangonin	9.091	1251.255	10.26	0.000

2/8/24
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