

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	12/17/2024	Country of Origin	Solomon Islands
Sample Number	S2198	Country of Processing	United States
Product Name	Chief Lateral Roots	Manufacture Date	Dec-24
Lot Number	SIK2411-CLR12	Best By Date	Dec-27

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	13.14%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	243561	HPLC
K/DHM	> 1.2 for Noble	1.9	Calculation

HEAVY METALS

		Result	
Arsenic (As)	NMT 1,000 (ppb)*	34.3 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	810 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	196 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

		Result	
AEROBIC PLATE COUNT	NMT 10,000,000 cfu	50,000 cfu / 10 g	USP 2021
E. COLI	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
PSEUDOMONAS AERUGINOSA	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
SALMONELLA	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
STAPHYLOCOCCUS AUREUS	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 2022
YEAST	NMT 100,000 cfu (Combined)	110,000 cfu / 10 g	
MOLD		10 cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	110010 cfu / 10 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.

Botany Evolution, its board of directors, contract laboratories, employees, and affiliates are held harmless from any loss or damages resulting from the use or misuse of this document. The appropriate use of this product is the sole responsibility of the user of the purchasing party.

Completed By: Tony Saleh Title: Manager Date: 12/18/24

Botany Evolution LLC

2510 Kirby Circle NE
Palm Bay, FL 32945
321-802-4583

Certificate Of Analysis

Sample Identification Information

Date of Analysis 12/17/2024

Sample: S2198

Product Name CHIEF LATERAL

Lot# SIK2411-CLR12

Country of Origin SOLOMON ISLANDS

Country of Processing USA

Manufacture Date Nov-24

Best By Date Nov-27

General Product Specifications

Product Species Piper Methycticum

Part Used Root

Common Names Kava kava, Awa, Yagona

Appearance Yellow, Brown, beige powder

Analyzed Characteristics

Specification

Result

Test Method

Standardization 2-17% Kavalactones

13.14% HPLC

Identification Complies by HPLC

Conform HPLC

Kavalactone Profile Noble

PASS HPLC

Mesh Size 60-30

60 Sieve

Color Beige to Yellow

Pass Visual

Odor Pass Organoleptic

Taste Pass Organoleptic

Chemotype 243561 HPLC

K/DHM 1.9 Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2472.728			
Methysticin	M	1	2.21	1357.172	11.75%	1.7221%	6
Dihydromethysticin	DHM	2	3.38	887.436	7.68%	1.7222%	5
Kavain	K	3	1	5835.234	50.51%	3.35%	4
Dihydrokavain	DHK	4	3.48	1763.721	15.27%	3.52%	2
Desmethoxyyangonin	DMY	5	2.52	711.48	6.16%	1.03%	1
Yangonin	Y	6	3.12	998.607	8.64%	1.79%	3
Kavalactones			Total:	11553.650	100.00%	13.14%	243561

*See data in attachment HPLC1100 Agilent Certificate with Chromatogram graph.

This result are in house tested and the best of our knowledge and experience. Using calibrated equipment.
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Chemist Musth Youngs Date 12/18/24

SAMPLE S2198
Vial 18

0.75029g/50mL

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA_12_17_2024_15MINSTDTESTMETHOD 2024-12-17 14-19-01\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_12_17_2024_ ->

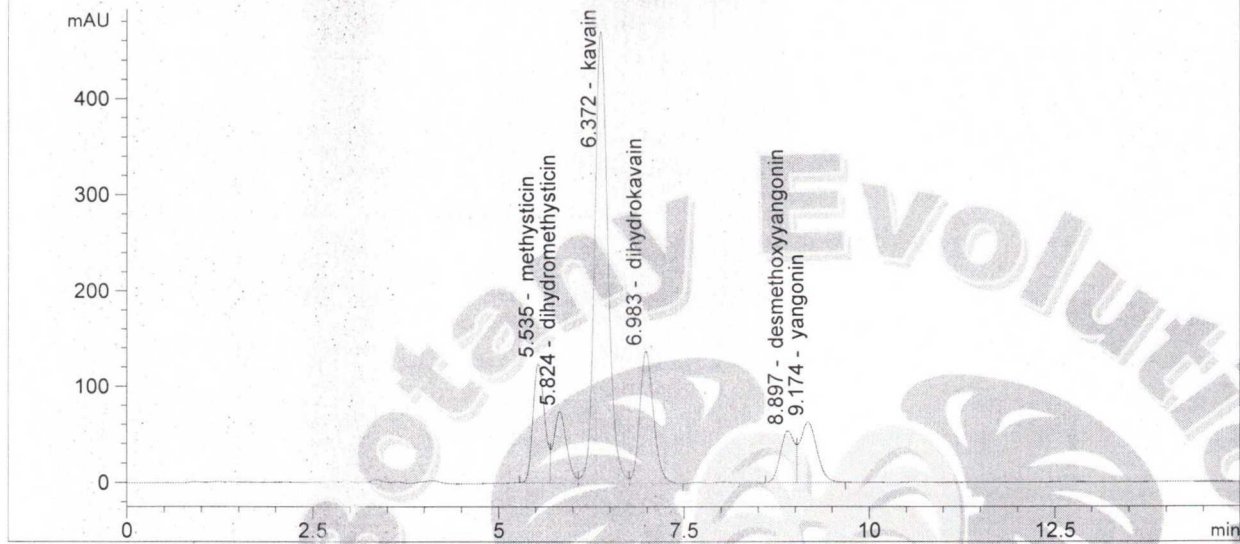
Injection date 12/17/2024

Injection time 7:58:34 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_12_17_202->

DAD1 C, Sig=246,10 Fef=500,60 (KAVA_12_17_2024_15MINSTDTESTMETHOD 2024-12-17 14-19-01\018-1801.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.535	1357.172	11.75	0.000
2	dihydromethysticin	5.824	887.436	7.68	0.000
3	kavain	6.372	5835.234	50.51	0.000
4	dihydrokavain	6.983	1763.721	15.27	0.000
5	desmethoxyyangonin	8.897	711.480	6.16	0.000
6	yangonin	9.174	998.607	8.64	0.000

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