

Botany Evolution LLC

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

Certificate Of Analysis

Sample Identification Information

Date of Analysis 7/12/2024

Sample: S2156

Product Name GOLD LATERAL

Lot# SIK2406-GLR7

Country of Origin SOLOMON ISLANDS

Country of Processing USA

Manufacture Date Jun-24

Best By Date Jun-27

General Product Specifications

Product Species Piper Methysticum

Part Used Root

Common Names Kava kava, Awa, Yagona

Appearance Yellow, Brown, beige powder

<u>Analyzed Characteristics</u>	<u>Specification</u>	<u>Result</u>	<u>Test Method</u>
<u>Standardization</u>	2-17% Kavalactones	17.72%	HPLC
<u>Identification</u>	Complies by HPLC	Conform	HPLC
<u>Kavalactone Profile</u>	Noble	PASS	HPLC
<u>Mesh Size</u>	60-30	60	Sieve
<u>Color</u>	Beige to Yellow	Pass	Visual
<u>Odor</u>		Pass	Organoleptic
<u>Taste</u>		Pass	Organoleptic
<u>Chemotype</u>		423156	HPLC
<u>K/DHM</u>		5.0	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2366.113			
Methysticin	M	1	2.21	923.459	5.38%	1.19%	6
Dihydromethysticin	DHM	2	3.38	633.149	3.69%	1.25%	5
Kavain	K	3	1	10801.904	62.90%	6.32%	4
Dihydrokavain	DHK	4	3.48	2310.223	13.45%	4.70%	2
Desmethoxyyangonin	DMY	5	2.52	892.106	5.19%	1.31%	1
Yangonin	Y	6	3.12	1612.446	9.39%	2.94%	3
Kavalactones			Total:	17173.287	100.00%	17.72%	423156

*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.

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.

Chemist

Mustb Youngs

Date

7/15/24

SAMPLE S2156
Vial 12

0.75739g/50mL

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA_07_12_2024_15MINSTDTESTMETHOD 2024-07-12 15-19-39\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_07_12_2024_ -->

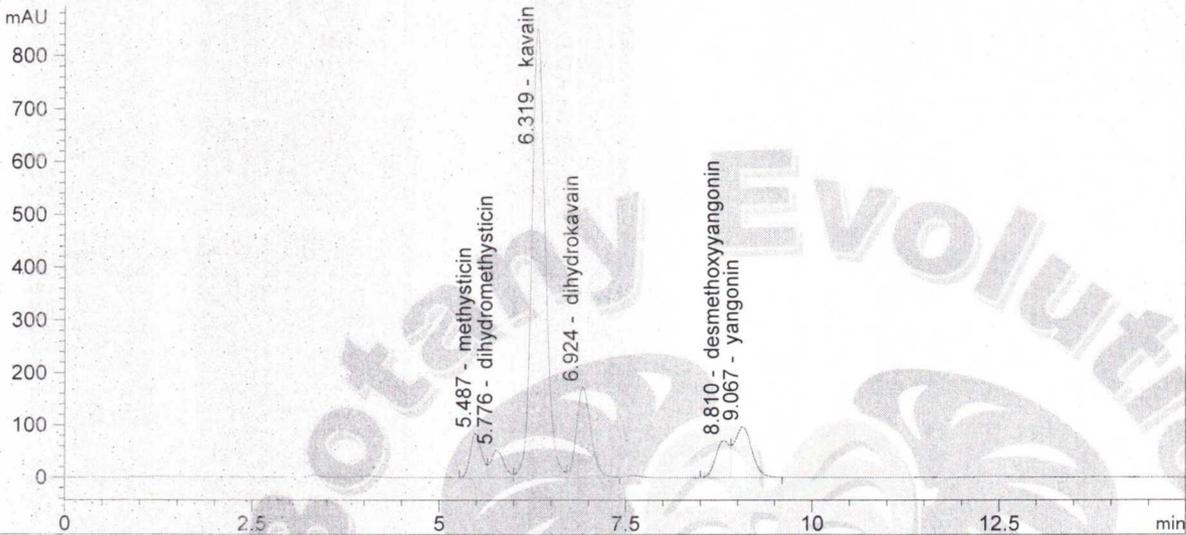
Injection date 7/12/2024

Injection time 7:22:58 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_07_12_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA_07_12_2024_15MINSTDTESTMETHOD 2024-07-12 15-19-39\012-1201.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.487	923.459	5.38	0.000
2	dihydromethysticin	5.776	633.149	3.69	0.000
3	kavain	6.319	10801.904	62.90	0.001
4	dihydrokavain	6.924	2310.223	13.45	0.000
5	desmethoxyyangonin	8.810	892.106	5.19	0.000
6	yangonin	9.067	1612.446	9.39	0.000

7/15/24
[Signature]

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	7/12/2024	Country of Origin	Solomon Islands
Sample Number	S2156	Country of Processing	USA
Product Name	Gold Lateral Roots	Manufacture Date	Jun-24
Lot Number	SIK2406-GLR7	Best By Date	Jun-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	17.72%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	423156	HPLC
K/DHM	> 1.2 for Noble	5.0	Calculation

HEAVY METALS

		Results	
Arsenic (As)	NMT 1,000 (ppb)*	20.1 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	689 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	237 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

		Results	
AEROBIC PLATE COUNT	NMT 10,000,000 cfu	96,000 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		12,000 cfu / 10 g	
MOLD	NMT 100,000 cfu (Combined)	180 cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	12180 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

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Completed By:  Title: Manager Date: 7/15/2024