

# Botany Evolution LLC

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

## Certificate Of Analysis

### Sample Identification Information

Date of Analysis 5/28/2024

Sample: S2119

Product Name CHIEF BASAL

Lot# SIK2404-CBR5

Country of Origin SOLOMON ISLANDS

Country of Processing USA

Manufacture Date Apr-24

Best By Date Apr-27

### General Product Specifications

Product Species Piper Methysticum

Part Used Root

Common Names Kava kava, Awa, Yagona

Appearance Yellow, Brown, beige powder

### Analyzed Characteristics

#### Specification

#### Result

#### Test Method

Standardization

2-17% Kavalactones

7.57%

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

245631

HPLC

K/DHM

1.2

Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2394			
Methysticin	M	1	2.21	661.323	11.00%	0.8484%	6
Dihydromethysticin	DHM	2	3.38	642.052	10.68%	1.26%	5
Kavain	K	3	1	2627.916	43.70%	1.53%	4
Dihydrokavain	DHK	4	3.48	1310.77	21.80%	2.65%	2
Desmethoxyyangonin	DMY	5	2.52	303.634	5.05%	0.44%	1
Yangonin	Y	6	3.12	468.249	7.79%	0.8480%	3
Kavalactones			<b>Total:</b>	<b>6013.944</b>	<b>100.00%</b>	<b>7.57%</b>	<b>245631</b>

\*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 Mustel Youngs

Date 5/29/24

SAMPLE S2119  
Vial 11

0.75400g/50mL

wavelength 246 nm

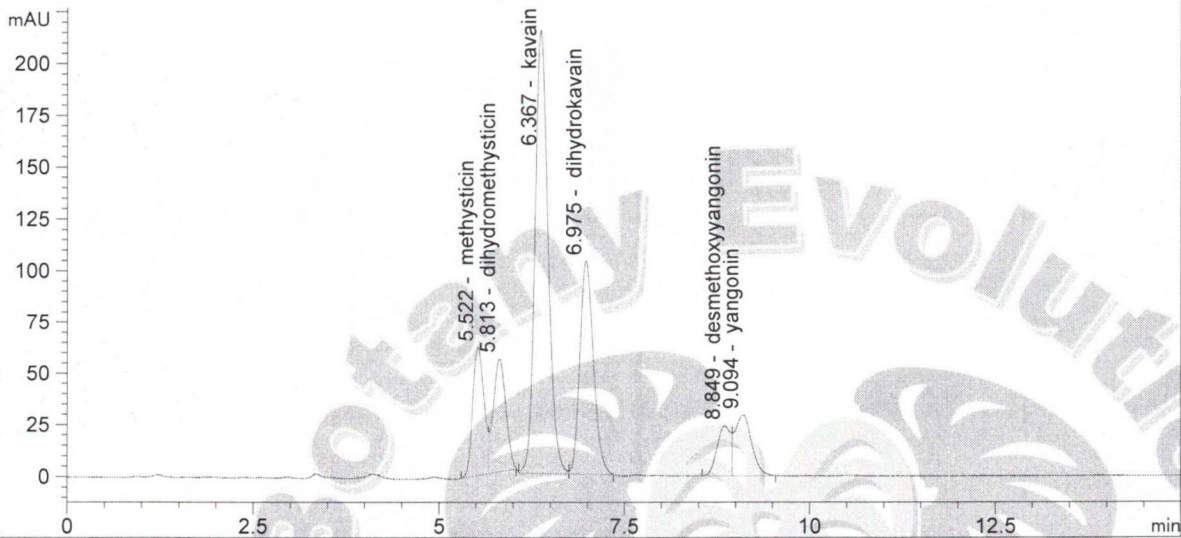
C:\CHEM32\1\DATA\KAVA\_05\_28\_2024\_15MINSTDTESTMETHOD 2024-05-28 16-38-07\01->  
SEQUENCE C:\CHEM32\1\DATA\KAVA\_05\_28\_2024\_ ->

Injection date 5/28/2024  
Injection time 8:25:00 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA\_05\_28\_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_05\_28\_2024\_15MINSTDTESTMETHOD 2024-05-28 16-38-07\011-1101.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.522	661.323	11.00	0.000
2	dihydromethysticin	5.813	642.052	10.68	0.000
3	kavain	6.367	2627.916	43.70	0.000
4	dihydrokavain	6.975	1310.770	21.80	0.000
5	desmethoxyyangonin	8.849	303.634	5.05	0.000
6	yangonin	9.094	468.249	7.79	0.000

5/29/24  
K

# CERTIFICATE OF ANALYSIS

**GENERAL INFORMATION**

Report Date	05/28/24	Country of Origin	Solomon Islands
Sample Number	S2119	Country of Processing	United States
Product Name	Chief Basal Roots	Manufacture Date	Apr-24
Lot Number	SIK2404-CBR5	Best By Date	Apr-27

ITEM	SPECIFICATION	TEST RESULTS	METHOD
------	---------------	--------------	--------

**PHYSICAL & CHEMICAL**

Identification	Piper methysticum	Complies	HPLC
Appearance	Beige to Yellow Powder	Complies	Organoleptic
Kavalactone Standard	2-17 % Kavalactones	7.57%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	245631	HPLC
K/DHM	> 1.2 for Noble	1.2	Calculation

**HEAVY METALS**

		Basal	Lateral		
Arsenic (As)	NMT 1,000 (ppb)*	< 10	45	ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	907	1050	ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	77.7	221	ppb	FDA EAM 4.7
Mercury (Hg)	NMT 1,000 (ppb)*	< 10	< 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**

		Basal	Lateral		
<b>AEROBIC PLATE COUNT</b>	<b>NMT 10,000,000 cfu</b>	1,500	250,000	cfu / 10 g	USP 2021
<b>E. COLI</b>	<b>ABSENT (cfu/10g)</b>	Absent		cfu / 10 g	USP 2022
<b>PSEUDOMONAS AERUGINOSA</b>	<b>ABSENT (cfu/10g)</b>	Absent		cfu / 10 g	USP 2022
<b>SALMONELLA</b>	<b>ABSENT (cfu/10g)</b>	Absent		cfu / 10 g	USP 2022
<b>STAPHYLOCOCCUS AUREUS</b>	<b>ABSENT (cfu/10g)</b>	Absent		cfu / 10 g	USP 2022
<b>YEAST</b>	<b>NMT 100,000 cfu (Combined)</b>	890	59,000	cfu / 10 g	
<b>MOLD</b>	<b>NMT 100,000 cfu (Combined)</b>	20	20	cfu / 10 g	USP 2021
<b>TOTAL YEAST &amp; MOLD</b>	<b>NMT 100,000 cfu (Combined)</b>	910	59020	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:  Title: Manager Date: 05/30/2024