

# CERTIFICATE OF ANALYSIS

**GENERAL INFORMATION**

Report Date	30-Sep	Country of Origin	Vanuatu
Sample Number	S2183	Country of Processing	USA
Product Name	Basal Roots	Manufacture Date	Aug-24
Lot Number	VSSC2408-BR9	Best By Date	Aug-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	8.11%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	245316	HPLC
K/DHM	> 1.2 for Noble	2.1	Calculation

**HEAVY METALS**

		Results	
Arsenic (As)	NMT 1,000 (ppb)*	< 10 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	207 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	11.5 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	210,000 cfu / 10 g	USP 61
E. COLI	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 62
PSEUDOMONAS AERUGINOSA	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 62
SALMONELLA	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 62
STAPHYLOCOCCUS AUREUS	ABSENT (cfu/10g)	Absent cfu / 10 g	USP 62
YEAST	NMT 100,000 cfu (Combined)	160 cfu / 10 g	
MOLD		5,400 cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	5,560 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.*

Authorized By (Name / Title): Tony Sabeh / Manager      Signature: 

# Botany Evolution LLC

1510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

## Certificate Of Analysis

### Sample Identification Information

Date of Analysis 9/30/2024

Sample: S2183

Product Name BASAL ROOTS

Lot# VSSC2408-BR9

Country of Origin VANUATU

Country of Processing USA

Manufacture Date Aug-24

Best By Date Aug-27

### General Product Specifications

Product Species Piper Methysticum

Part Used Root

Common Names Kava kava, Awa, Yagona

Appearance Yellow, Brown, beige powder

### Analyzed Characteristics

Standardization

Identification

Kavalactone Profile

Mesh Size

Color

Odor

Taste

Chemotype

K/DHM

Specification

2-17% Kavalactones

Complies by HPLC

Noble

60-30

Beige to Yellow

Result

8.11%

Conform

PASS

60

Pass

Pass

Pass

245316

2.1

Test Method

HPLC

HPLC

HPLC

Sieve

Visual

Organoleptic

Organoleptic

HPLC

Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2410.878			
Methysticin	M	1	2.21	427.387	6.08%	0.55%	<b>6</b>
Dihydromethysticin	DHM	2	3.38	517.449	7.37%	1.01%	<b>5</b>
Kavain	K	3	1	3746.513	53.33%	2.17%	<b>4</b>
Dihydrokavain	DHK	4	3.48	1487.172	21.17%	3.00%	<b>2</b>
Desmethoxyyangonin	DMY	5	2.52	398.256	5.67%	0.58%	<b>1</b>
Yangonin	Y	6	3.12	448.721	6.39%	0.81%	<b>3</b>
Kavalactones			<b>Total:</b>	<b>7025.498</b>	<b>100.00%</b>	8.11%	<b>245316</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.

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in house quality control department or obtain an additional independent third party lab to verify that this material meets specifications

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use or misuse of this document. The appropriate use of this product is the sole responsibility of the user of the purchasing party.

Chemist

*Justin Youngs*

Date

*10/2/24*

SAMPLE S2183  
Vial 12

.75115g/50mL

wavelength 246 nm

:\CHEM32\1\DATA\KAVA\_09\_30\_2024\_15MINSTDTESTMETHOD 2024-09-30 14-01-18\01->

EQUENCE C:\CHEM32\1\DATA\KAVA\_09\_30\_2024\_ ->

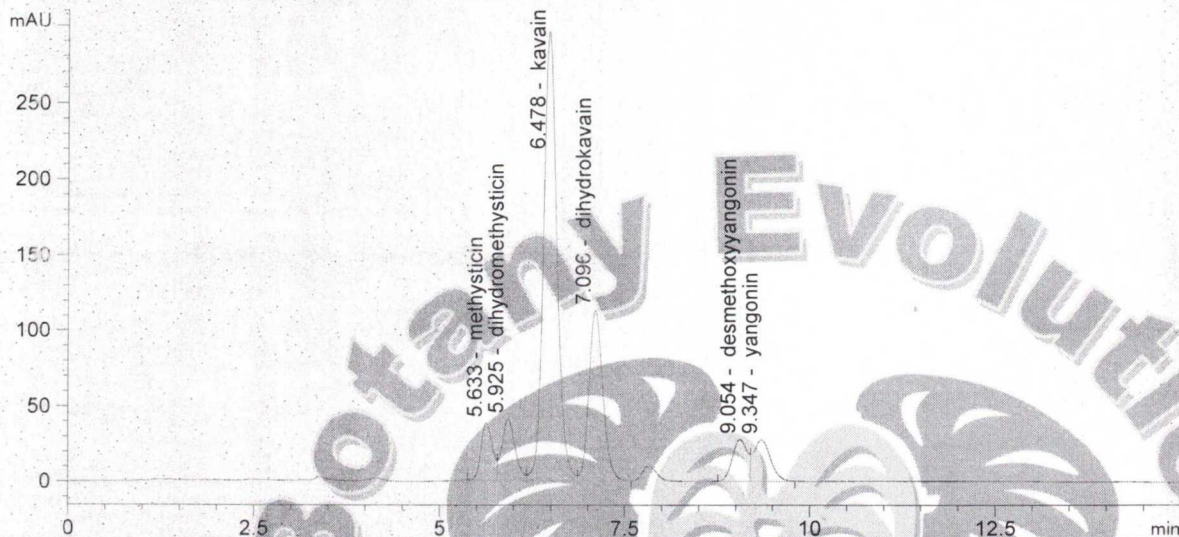
Injection date 9/30/2024

Injection time 6:04:52 PM

Operator KRISTL

Method C:\CHEM32\1\DATA\KAVA\_09\_30\_202->

DAD1.C, Sig=246,10 Ref=500,60 (KAVA\_09\_30\_2024\_15MINSTDTESTMETHOD 2024-09-30 14-01-18\012-1201.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.633	427.387	6.08	0.000
2	dihydromethysticin	5.925	517.449	7.37	0.000
3	kavain	6.478	3746.513	53.33	0.000
4	dihydrokavain	7.096	1487.172	21.17	0.000
5	desmethoxyyangonin	9.054	398.256	5.67	0.000
6	yangonin	9.347	448.721	6.39	0.000

10/2/24  
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