Botany Evolution LLC

2510 Kirby Circle NE Suite 110
Palm Bay, FL 32905

(321) 802 - 4583
botanyevolution@gmail.com

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	30-Sep	**Country of Origin**	Vanuatu
Sample Number	S2186	**Country of Processing**	USA
Product Name	Traditional	**Manufacture Date**	Aug-24
Lot Number	VSSC2408-TR9	**Best By Date**	Aug-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**	7.65%	HPLC
Kavalactone Profile	**Noble**	Pass	HPLC
Chemotype	**If # 5 is in 1st or 2nd in Abundance**	245361	HPLC
K/DHM	**> 1.2 for Noble**	1.4	Calculation
HEAVY METALS			
		Results	
Arsenic (As)	**NMT 1,000 (ppb)***	32.5 ppb	**FDA EAM 4.7**
Cadmium (Cd)	**NMT 1,000 (ppb)***	443 ppb	**FDA EAM 4.7**
Lead (Pb)	**NMT 1,000 (ppb)***	46 ppb	**FDA EAM 4.7**
Mercury (Hg)	**NMT 1,000 (ppb)***	< 10 ppb	**FDA EAM 4.7**
MICROBIOLOGICAL			
		Results	
AEROBIC PLATE COUNT	**NMT 10,000,000 cfu**	220,000 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		13,000 cfu / 10 g	**USP 2021**
TOTAL YEAST & MOLD	**NMT 100,000 cfu (Combined)**	13,160 cfu / 10 g	

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

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: Tony Sabeh

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

Certificate Of Analysis

Sample Identification Information

Date of Analysis 9/30/2024
Sample: S2186
Product Name TRADITIONAL
Lot# VSSC2408-TR9

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	Specification	Result	Test Method
Standardization	2-17% Kavalactones	7.65%	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		245361	HPLC
K/DHM		1.4	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	669.755	10.46%	0.85%	6
Dihydromethysticin	DHM	2	3.38	653.029	10.20%	1.27%	5
Kavain	K	3	1	3029.352	47.33%	1.74%	4
Dihydrokavain	DHK	4	3.48	1160.847	18.14%	2.32%	2
Desmethoxyyangonin	DMY	5	2.52	367.572	5.74%	0.53%	1
Yangonin	Y	6	3.12	519.518	8.12%	0.93%	3
Kavalactones			**Total:**	**6400.073**	**100.00%**	**7.65%**	**245361**

*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 Kristel Young Date 10/2/24

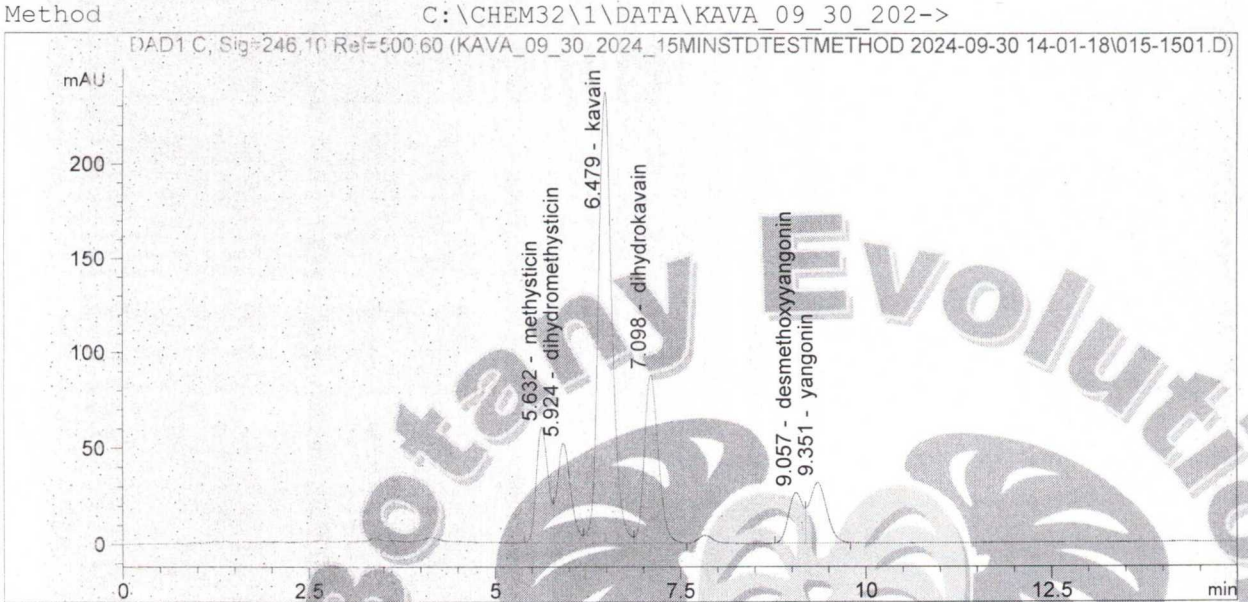
Botany Evolution LLC
2510 Kirby Circle NE
Palm Bay, FL 32945
321-802-4583

Kavalactone Analysis

SAMPLE S2186
Vial 15

0.75625g/50mL

wavelength 246 nm
C:\CHEM32\1\DATA\KAVA_09_30_2024_15MINSTDTESTMETHOD 2024-09-30 14-01-18\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_09_30_2024_ ->
Injection date 9/30/2024
Injection time 6:53:25 PM
Acq. operator KRISTL
Method C:\CHEM32\1\DATA\KAVA_09_30_202->



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.632	669.755	10.46	0.000
2	dihydromethysticin	5.924	653.029	10.20	0.000
3	kavain	6.479	3029.352	47.33	0.000
4	dihydrokavain	7.098	1160.847	18.14	0.000
5	desmethoxyyangonin	9.057	367.572	5.74	0.000
6	yangonin	9.351	519.518	8.12	0.000

10/2/24