

CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	3/22/2024	Country of Origin	Vanuatu
Sample Number	S2082	Country of Processing	USA
Product Name	Black Label	Manufacture Date	Jan-24
Lot Number	VPS2401-BL3	Best By Date	Jan-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	8.89%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	423156	HPLC
K/DHM	> 1.2 for Noble	4.4	Calculation

HEAVY METALS

		Basal	Lateral		
Arsenic (As)	NMT 1,000 (ppb)*	21.1	438	ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	233	1,030	ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	56.6	177	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		
AEROBIC PLATE COUNT	NMT 10,000,000 cfu	15,000	34,000	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)	50	4,800	cfu / 10 g	USP 2021
MOLD		10	800	cfu / 10 g	
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	60	5,600	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: Tony Sabeh

Botany Evolution LLC

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Palm Bay, FL 32945

321-802-4583

Certificate Of Analysis

Sample Identification Information

Date of Analysis 3/22/2024

Sample: S2082

Product Name BLACK LABEL

Lot# VPS2401-BL3

Country of Origin VANUATU

Country of Processing USA

Manufacture Date Jan-24

Best By Date Jan-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

8.89%

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

423156

HPLC

K/DHM

4.4

Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2371			
Methysticin	M	1	2.21	506.04	5.67%	0.62%	6
Dihydromethysticin	DHM	2	3.38	370.386	4.15%	0.70%	5
Kavain	K	3	1	5493.305	61.54%	3.05%	4
Dihydrokavain	DHK	4	3.48	1357.607	15.21%	2.63%	2
Desmethoxyyangonin	DMY	5	2.52	548.479	6.14%	0.77%	1
Yangonin	Y	6	3.12	650.065	7.28%	1.13%	3
Kavalactones			Total:	8925.882	100.00%	8.89%	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.

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Chemist

Musie Youngs

Date

3/25/24

SAMPLE S2082
Vial 23

0.75583g/50mL

wavelength 246 nm

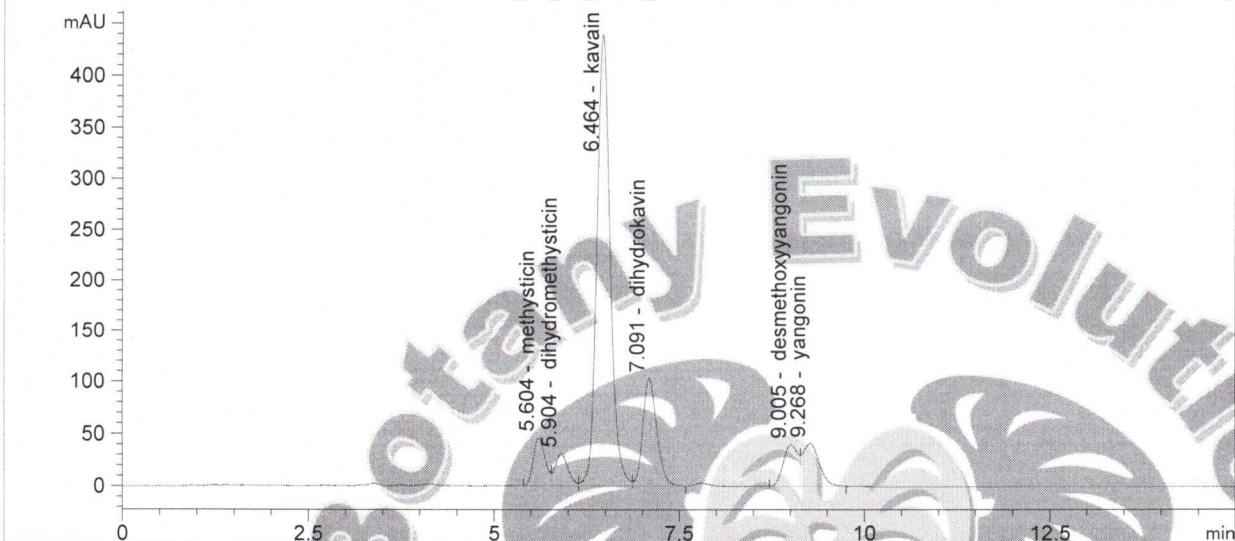
C:\CHEM32\1\DATA\KAVA_03_22_2024_15MINSTDTESTMETHOD 2024-03-22 15-33-40\02->
SEQUENCE C:\CHEM32\1\DATA\KAVA_03_22_2024_ ->

Injection date 3/22/2024
Injection time 10:35:03 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_03_22_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA_03_22_2024_15MINSTDTESTMETHOD 2024-03-22 15-33-40\023-2301.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.604	506.040	5.67	0.000
2	dihydromethysticin	5.904	370.386	4.15	0.000
3	kavain	6.464	5493.305	61.54	0.000
4	dihydrokavin	7.091	1357.607	15.21	0.000
5	desmethoxyyangonin	9.005	548.479	6.14	0.000
6	yangonin	9.268	650.065	7.28	0.000

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