

Botany Evolution LLC

510 Kirby Circle NE

Palm Bay, FL 32945

21-802-4583

Certificate Of Analysis

Sample Identification Information

<u>Date of Analysis</u> 7/3/2024	<u>Country of Origin</u> VANUATU
<u>Sample:</u> S2152	<u>Country of Processing</u> USA
<u>Product Name</u> PREMIUM INSTANT	<u>Manufacture Date</u> Jan-24
<u>Lot#</u> VPS2401-PI7	<u>Best By Date</u> Jan-27

General Product Specifications

<u>Product Species</u> Piper Methysticum	<u>Common Names</u> Kava kava, Awa, Yagona
<u>Part Used</u> Root	<u>Appearance</u> Yellow, Brown, beige powder

<u>Analyzed Characteristics</u>	<u>Specification</u>	<u>Result</u>	<u>Test Method</u>
<u>Standardization</u>	2-17% Kavalactones	7.10%	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>		243516	HPLC
<u>K/DHM</u>		3.7	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2365.094			
Methysticin	M	1	2.21	300.588	4.66%	0.39%	6
Dihydromethysticin	DHM	2	3.38	298.738	4.63%	0.59%	5
Kavain	K	3	1	3765.295	58.38%	2.20%	4
Dihydrokavain	DHK	4	3.48	1130.285	17.52%	2.30%	2
Desmethoxyyangonin	DMY	5	2.52	353.168	5.48%	0.52%	1
Yangonin	Y	6	3.12	601.958	9.33%	1.10%	3
Kavalactones			Total:	6450.032	100.00%	7.10%	243516

*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

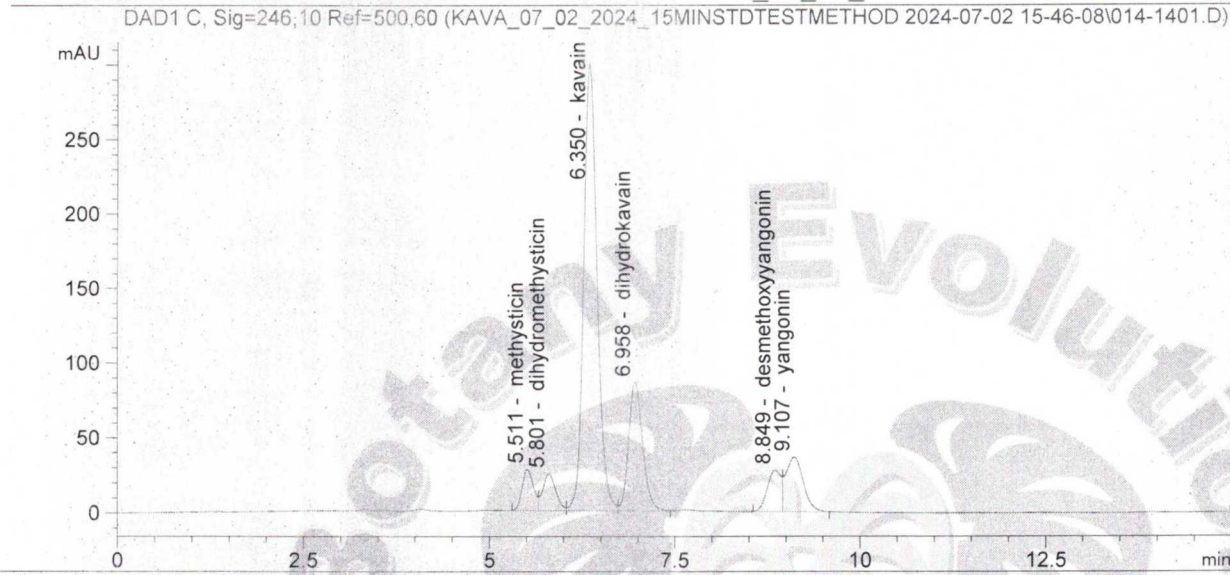
Date

7/3/24

SAMPLE S2152
Vial 14

.75791g/50mL

avelength 246 nm
:\CHEM32\1\DATA\KAVA_07_02_2024_15MINSTDTESTMETHOD 2024-07-02 15-46-08\01->
EQUENCE C:\CHEM32\1\DATA\KAVA_07_02_2024_ ->
njection date 7/2/2024
njection time 8:21:25 PM
cq. operator KRISTL
ethod C:\CHEM32\1\DATA\KAVA_07_02_202->



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.511	300.588	4.66	0.000
2	dihydromethysticin	5.801	298.738	4.63	0.000
3	kavain	6.350	3765.295	58.38	0.000
4	dihydrokavain	6.958	1130.285	17.52	0.000
5	desmethoxyyangonin	8.849	353.168	5.48	0.000
6	yangonin	9.107	601.958	9.33	0.000

7/3/24
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CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

Report Date	7/3/2024	Country of Origin	Vanuatu
Sample Number	S2152	Country of Processing	USA
Product Name	Premium Instant	Manufacture Date	Jan-24
Lot Number	VPS2401-PI7	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	7.10%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	243516	HPLC
K/DHM	> 1.2 for Noble	3.7	Calculation

HEAVY METALS

		Results	
Arsenic (As)	NMT 1,000 (ppb)*	160 ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	498.6 ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	96.7 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	10,000 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 cfu / 10 g	
MOLD		10 cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	60 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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Authorized By (Name / Title):

Tony Sabch Manager

Signature:

Tony Sabch