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	9-Aug	Country of Origin	Solomon Islands
Sample Number	S2164	Country of Processing	USA
Product Name	Gold Basal Roots	Manufacture Date	Jun-24
Lot Number	SIK2406-GBR8	Best By Date	Jun-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	9.90%	HPLC
Kavalactone Profile	Noble	Pass	HPLC
Chemotype	If # 5 is in 1st or 2nd in Abundance	243516	HPLC
K/DHM	> 1.2 for Noble	4.0	Calculation

HEAVY METALS

		Results		
Arsenic (As)	NMT 1,000 (ppb)*	< 10	ppb	FDA EAM 4.7
Cadmium (Cd)	NMT 1,000 (ppb)*	190	ppb	FDA EAM 4.7
Lead (Pb)	NMT 1,000 (ppb)*	1,050	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	11,000	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)	8,000	cfu / 10 g	
MOLD		240	cfu / 10 g	USP 2021
TOTAL YEAST & MOLD	NMT 100,000 cfu (Combined)	8240	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: _[signature]_   Title: _Manager_   Date: _8/14/2024_

Botany Evolution LLC

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

Certificate Of Analysis

Sample Identification Information

Date of Analysis	8/9/2024	
Sample:	S2164	
Product Name	GOLD BASAL	
Lot#	SIK2406-GBR8	

Country of Origin	SOLOMON ISLANDS
Country of Processing	USA
Manufacture Date	Jun-24
Best By Date	Jun-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	9.90%	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		243516	HPLC
K/DHM		4.0	Calculation

Kavalactones	Code	Peaks Ref. (elution order)	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2372.192			
Methysticin	M	1	2.21	350.765	3.93%	0.45%	6
Dihydromethysticin	DHM	2	3.38	389.123	4.36%	0.77%	5
Kavain	K	3	1	5221.783	58.57%	3.06%	4
Dihydrokavain	DHK	4	3.48	1711.079	19.19%	3.49%	2
Desmethoxyyangonin	DMY	5	2.52	448.729	5.03%	0.66%	1
Yangonin	Y	6	3.12	793.475	8.90%	1.45%	3
Kavalactones			Total:	8914.954	100.00%	9.90%	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.

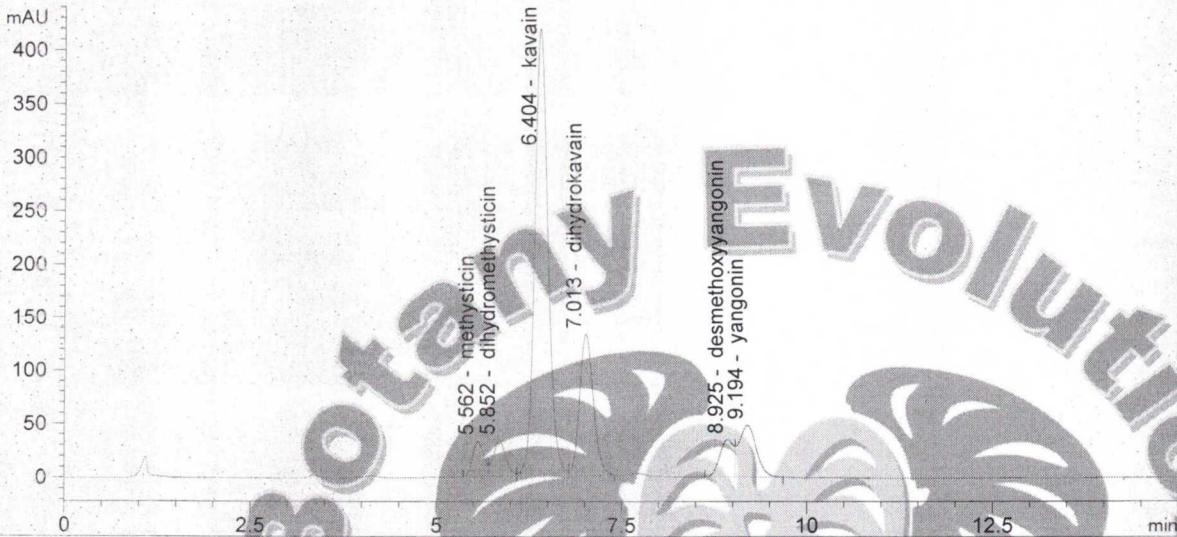| Chemist	_Kristi Young_	Date	8/13/24

Kavalactone Analysis

SAMPLE S2164
Vial 11

.75325g/50mL

avelength 246 nm
:\CHEM32\1\DATA\KAVA_08_09_2024_15MINSTDTESTMETHOD 2024-08-09 12-47-50\01->
EQUENCE C:\CHEM32\1\DATA\KAVA_08_09_2024_   ->
njection date 8/9/2024
njection time 4:34:47 PM
.cq. operator   KRISTL
lethod   C:\CHEM32\1\DATA\KAVA_08_09_202->

#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.562	350.765	3.93	0.000
2	dihydromethysticin	5.852	389.123	4.36	0.000
3	kavain	6.404	5221.783	58.57	0.000
4	dihydrokavain	7.013	1711.079	19.19	0.000
5	desmethoxyyangonin	8.925	448.729	5.03	0.000
6	yangonin	9.194	793.475	8.90	0.000

8/13/24