

**Botany Evolution LLC**

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

**Certificate Of Analysis**

**Sample Identification Information**

Date of Analysis 12/18/2017  
Sample: S0289  
Product Name BASAL ROOT KAVA  
Lot# SIV171201BR

Country of Origin SOLOMON ISLANDS  
Country of Processing SOLOMON ISLANDS  
Manufacture Date 12/01/17  
Expiration Date 12/01/20

**General Product Specifications**

Product Species Piper Methysticum  
Part Used Root

Common Names Kava kava, Awa, Yagona  
Appearance Beige powder

**Analyzed Characteristics**

**Specification**

**Result**

**Test Method**

<u>Standardization</u>	2-15% Kavalactones	11.57%	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>		243156	HPLC
<u>K/DHM</u>		4.68	Calculation

Kavalactones	Code	Peaks Ref.	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2997.284			
Methysticin	M	1	2.19	589.115	4.74%	0.61%	6
Dihydromethysticin	DHM	2	3.23	488.966	3.93%	0.74%	5
Kavain	K	3	1	7396.949	59.52%	3.48%	4
Dihydrokavain	DHK	4	4.21	2054.775	16.53%	4.07%	2
Desmethoxyyangonin	DMY	5	2.74	780.97	6.28%	1.01%	1
Yangonin	Y	6	3.16	1117.067	8.99%	1.66%	3
<b>Kavalactones</b>			<b>Total:</b>	<b>12427.842</b>	<b>100.00%</b>	<b>11.57%</b>	<b>243156</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.  
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.

*Muste Youngs* 12/21/17

SAMPLE S0289  
Vial 22

0.75891 g/50 ml

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_12\_18\_2017\_15MINSTDTESTMETHOD 2017-12-18 15-38-56\02->

SEQUENCE C:\CHEM32\1\DATA\KAVA\_12\_18\_2017\_ ->

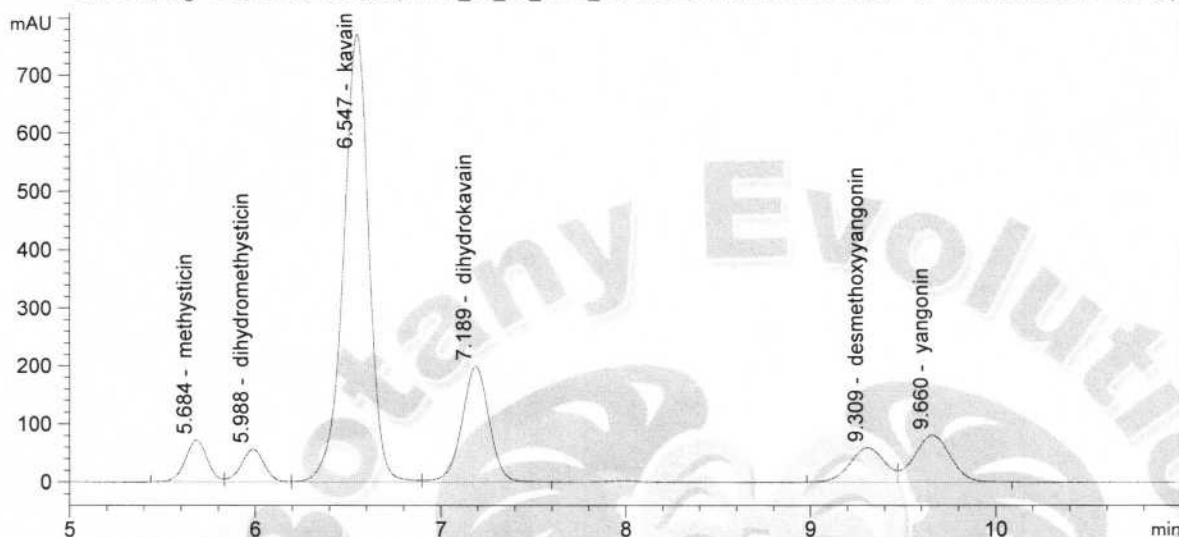
Injection date 12/18/2017

Injection time 7:25:13 PM

Acq. operator KRISTL

Method C:\CHEM32\1\METHODS\KAVA15MIN STD TEST.M

DAD1 C, Sig=246,10 Ref=500.60 (KAVA\_12\_18\_2017\_15MINSTDTESTMETHOD 2017-12-18 15-38-56\022-1301.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.684	589.115	4.74	0.000
2	dihydromethysticin	5.988	488.966	3.93	0.000
3	kavain	6.547	7396.949	59.52	0.001
4	dihydrokavain	7.189	2054.775	16.53	0.001
5	desmethoxyyangonin	9.309	780.970	6.28	0.000
6	yangonin	9.660	1117.067	8.99	0.000

*Handwritten signature*  
12/21/17

**Botany Evolution LLC**

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Palm Bay, FL 32945

321-802-4583

**Certificate Of Analysis****Sample Identification Information**Date of Analysis 12/26/2017Sample: S0289 rerunProduct Name BASAL ROOT KAVALot# SIV171201BRCountry of Origin SOLOMON ISLANDSCountry of Processing SOLOMON ISLANDSManufacture Date 12/01/17Expiration Date 12/01/20**General Product Specifications**Product Species Piper MethysticumPart Used RootCommon Names Kava kava, Awa, YagonaAppearance Beige powder**Analyzed Characteristics****Specification****Result****Test Method**Standardization

2-15% Kavalactones

11.67%

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

243156

HPLC

K/DHM

4.58

Calculation

Kavalactones	Code	Peaks Ref.	Correction Factor	Area *	Area %	Corrected Kavalactones	Chemotype Identifier
Standard Kavain	K			2981.844			
Methysticin	M	1	2.19	584.821	4.72%	0.61%	6
Dihydromethysticin	DHM	2	3.23	496.553	4.00%	0.76%	5
Kavain	K	3	1	7346.208	59.25%	3.47%	4
Dihydrokavain	DHK	4	4.21	2113.204	17.04%	4.21%	2
Desmethoxyyangonin	DMY	5	2.74	776.148	6.26%	1.01%	1
Yangonin	Y	6	3.16	1081.573	8.72%	1.62%	3
<b>Kavalactones</b>			<b>Total:</b>	<b>12398.507</b>	<b>100.00%</b>	<b>11.67%</b>	<b>243156</b>

\*See data in attachment HPLC1100 Agilent Certificate with Chromatogram graph.

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Muste Youngs

12/27/17

SAMPLE S0289 RERUN  
Vial 13

0.76221 g/50ml

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_12\_26\_2017\_15MINSTDTESTMETHOD 2017-12-26 14-07-59\01->

SEQUENCE C:\CHEM32\1\DATA\KAVA\_12\_26\_2017\_ ->

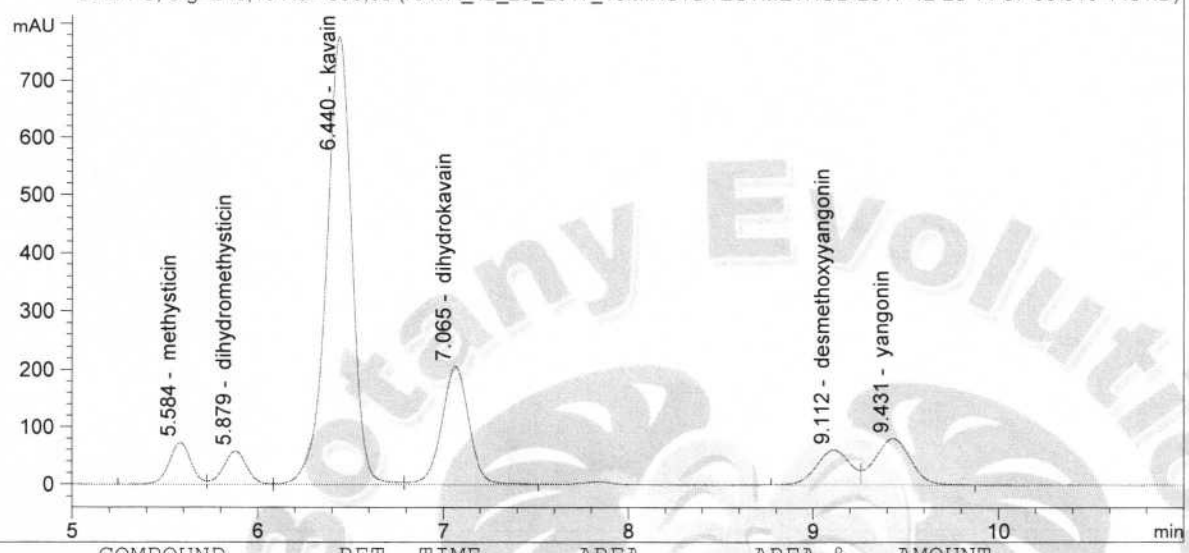
Injection date 12/26/2017

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Acq. operator KRISTL

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DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_12\_26\_2017\_15MINSTDTESTMETHOD 2017-12-26 14-07-59\013-1401.D)



#	COMPOUND	RET. TIME	AREA	AREA %	AMOUNT
1	methysticin	5.584	584.821	4.72	0.000
2	dihydromethysticin	5.879	496.553	4.00	0.000
3	kavain	6.440	7346.208	59.25	0.001
4	dihydrokavain	7.065	2113.204	17.04	0.001
5	desmethoxyyangonin	9.112	776.148	6.26	0.000
6	yangonin	9.431	1081.573	8.72	0.000

*Handwritten signature*  
12/27/17