

# Botany Evolution LLC

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

## Certificate Of Analysis

### Sample Identification Information

Date of Analysis 4/5/2018

Sample: S0385

Product Name BLACK LABEL

Lot# VFE171028BL

Country of Origin/Region VANUATU

Country of Processing VANUATU

Manufacture Date 10/28/17

Expiration Date 10/28/20

### 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

Standardization

2-15% Kavalactones

8.05%

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

3.23

Calculation

| Kavalactones       | Code | Peaks Ref. | Correction Factor | Area *          | Area %         | Corrected Kavalactones | Chemotype Identifier |
|--------------------|------|------------|-------------------|-----------------|----------------|------------------------|----------------------|
| Standard Kavain    | K    |            |                   | 2973.866        |                |                        |                      |
| Methysticin        | M    | 1          | 2.19              | 664.822         | 7.81%          | 0.70%                  | 6                    |
| Dihydromethysticin | DHM  | 2          | 3.23              | 464.908         | 5.46%          | 0.72%                  | 5                    |
| Kavain             | K    | 3          | 1                 | 4843.264        | 56.92%         | 2.31%                  | 4                    |
| Dihydrokavain      | DHK  | 4          | 4.21              | 1221.946        | 14.36%         | 2.46%                  | 2                    |
| Desmethoxyyangonin | DMY  | 5          | 2.74              | 573.74          | 6.74%          | 0.75%                  | 1                    |
| Yangonin           | Y    | 6          | 3.16              | 740.954         | 8.71%          | 1.12%                  | 3                    |
| Kavalactones       |      |            | <b>Total:</b>     | <b>8509.634</b> | <b>100.00%</b> | <b>8.05%</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.

*Mustel Youngs 4/16/18*

SAMPLE S0385  
Vial 17

0.75308g/50ml

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA\_4\_5\_2018\_15MINSTDTESTMETHOD 2018-04-05 15-58-41\017-->

SEQUENCE C:\CHEM32\1\DATA\KAVA\_4\_5\_2018\_ ->

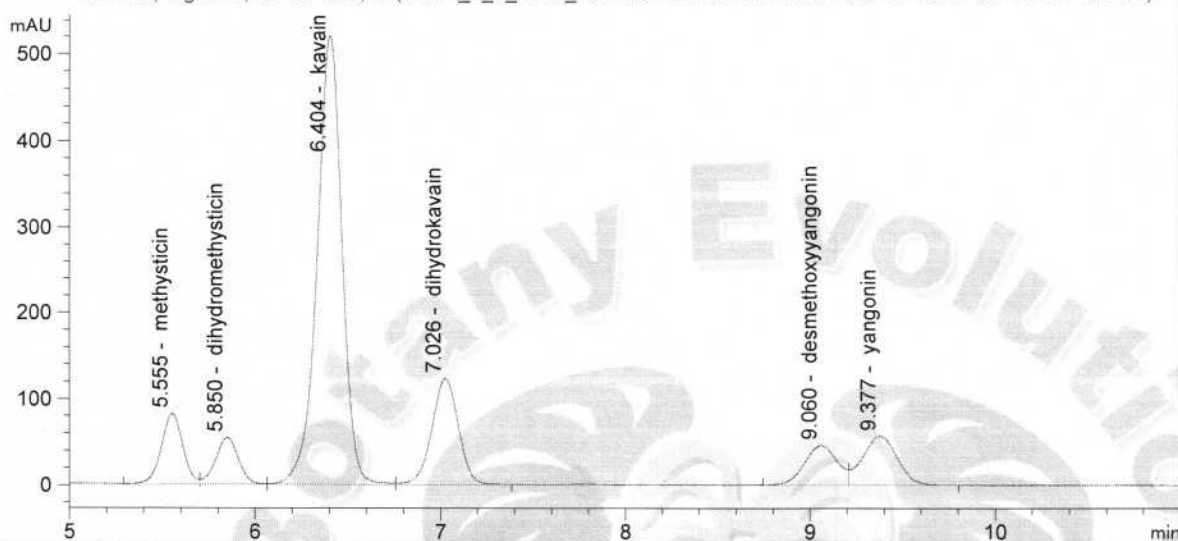
Injection date 4/5/2018

Injection time 9:38:14 PM

Acq. operator KRISTL

Method C:\CHEM32\1\METHODS\KAVA15MIN\_STD\_TEST.M

DAD1 C, Sig=246,10 Ref=500,60 (KAVA\_4\_5\_2018\_15MINSTDTESTMETHOD 2018-04-05 15-58-41\017-1801.D)



| # | COMPOUND           | RET. TIME | AREA     | AREA % | AMOUNT |
|---|--------------------|-----------|----------|--------|--------|
| 1 | methysticin        | 5.555     | 664.822  | 7.81   | 0.000  |
| 2 | dihydromethysticin | 5.850     | 464.908  | 5.46   | 0.000  |
| 3 | kavain             | 6.404     | 4843.264 | 56.92  | 0.000  |
| 4 | dihydrokavain      | 7.026     | 1221.946 | 14.36  | 0.001  |
| 5 | desmethoxyyangonin | 9.060     | 573.740  | 6.74   | 0.000  |
| 6 | yangonin           | 9.377     | 740.954  | 8.71   | 0.000  |

4/6/18  
y