

Botany Evolution LLC

2510 Kirby Circle NE

Palm Bay, FL 32945

321-802-4583

Certificate Of Analysis

Sample Identification Information

| | |
|-----------------------------------|--|
| <u>Date of Analysis</u> 7/12/2024 | <u>Country of Origin</u> SOLOMON ISLANDS |
| <u>Sample:</u> S2155 | <u>Country of Processing</u> USA |
| <u>Product Name</u> GOLD | <u>Manufacture Date</u> Jun-24 |
| <u>Lot#</u> SIK2406-G7 | <u>Best By Date</u> Jun-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 | 11.46% | 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> | | 243561 | HPLC |
| <u>K/DHM</u> | | 3.3 | Calculation |

| Kavalactones | Code | Peaks Ref. (elution order) | Correction Factor | Area * | Area % | Corrected Kavalactones | Chemotype Identifier |
|---------------------|------|-------------------------------|----------------------|------------------|----------------|---------------------------|----------------------|
| Standard Kavain | K | | | 2366.113 | | | |
| Methysticin | M | 1 | 2.21 | 604.02 | 5.91% | 0.78% | 6 |
| Dihydromethysticin | DHM | 2 | 3.38 | 526.886 | 5.16% | 1.05% | 5 |
| Kavain | K | 3 | 1 | 5801.741 | 56.79% | 3.41% | 4 |
| Dihydrokavain | DHK | 4 | 3.48 | 1826.939 | 17.88% | 3.74% | 2 |
| Desmethoxyyangonin | DMY | 5 | 2.52 | 521.268 | 5.10% | 0.77% | 1 |
| Yangonin | Y | 6 | 3.12 | 935.513 | 9.16% | 1.71% | 3 |
| Kavalactones | | | Total: | 10216.367 | 100.00% | 11.46% | 243561 |

*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

Russell Youngs

Date

7/15/24

SAMPLE S2155
Vial 11

0.75387g/50mL

wavelength 246 nm

C:\CHEM32\1\DATA\KAVA_07_12_2024_15MINSTDTESTMETHOD 2024-07-12 15-19-39\01->
SEQUENCE C:\CHEM32\1\DATA\KAVA_07_12_2024_ ->

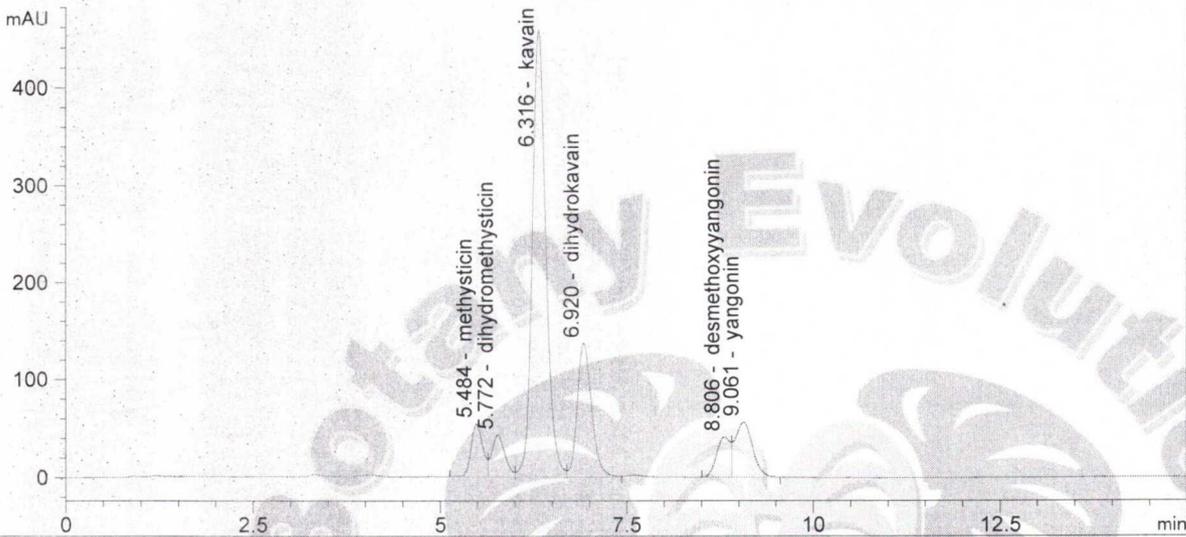
Injection date 7/12/2024

Injection time 7:06:51 PM

Acq. operator KRISTL

Method C:\CHEM32\1\DATA\KAVA_07_12_202->

DAD1 C, Sig=246,10 Ref=500,60 (KAVA_07_12_2024_15MINSTDTESTMETHOD 2024-07-12 15-19-39\011-1101.D)



| # | COMPOUND | RET. TIME | AREA | AREA % | AMOUNT |
|---|--------------------|-----------|----------|--------|--------|
| 1 | methysticin | 5.484 | 604.020 | 5.91 | 0.000 |
| 2 | dihydromethysticin | 5.772 | 526.886 | 5.16 | 0.000 |
| 3 | kavain | 6.316 | 5801.741 | 56.79 | 0.000 |
| 4 | dihydrokavain | 6.920 | 1826.939 | 17.88 | 0.000 |
| 5 | desmethoxyyangonin | 8.806 | 521.268 | 5.10 | 0.000 |
| 6 | yangonin | 9.061 | 935.513 | 9.16 | 0.000 |

7/15/24
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CERTIFICATE OF ANALYSIS

GENERAL INFORMATION

| | | | |
|---------------|------------|-----------------------|-----------------|
| Report Date | 12-Jul | Country of Origin | Solomon Islands |
| Sample Number | S2155 | Country of Processing | USA |
| Product Name | Gold | Manufacture Date | Jun-24 |
| Lot Number | SIK2406-G7 | 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 | 11.46% | HPLC |
| Kavalactone Profile | Noble | Pass | HPLC |
| Chemotype | If # 5 is in 1st or 2nd in Abundance | 243561 | HPLC |
| K/DHM | > 1.2 for Noble | 3.3 | Calculation |

HEAVY METALS

| | | Results | |
|--------------|------------------|-----------|-------------|
| Arsenic (As) | NMT 1,000 (ppb)* | 13.36 ppb | FDA EAM 4.7 |
| Cadmium (Cd) | NMT 1,000 (ppb)* | 356 ppb | FDA EAM 4.7 |
| Lead (Pb) | NMT 1,000 (ppb)* | 779 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 | 10,540 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) | 9,340 cfu / 10 g | |
| MOLD | | 220 cfu / 10 g | USP 2021 |
| TOTAL YEAST & MOLD | NMT 100,000 cfu (Combined) | 9560 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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Completed By: Tracy Sahl Title: Manager Date: 7/15/2024