

CERTIFICATE OF ANALYSIS

SAMPLE NAME: RAW LEAF
SAMPLE CODE: DTS-250210-034
CLIENT: KR80M
BATCH RESULT: PASS

MATRIX NAME: Botanical Powder - Plant
SAMPLE TYPE: Quality Assurance
RECEIVED DATE: Tue, Feb 11, 2025
PUBLISHED DATE: Thu, Feb 20, 2025
BATCH/LOT CODE: 25RM0207BA
BATCH SIZE: 100kg
SAMPLE SIZE: 50g

MITRAGYNINE 1.3476 %

TOTAL MAJOR ALKALOIDS 2.2265 %

TOTAL MINOR ALKALOIDS 0.00194 %



ALKU ✓ Kratom Alkaloids High Level	ALKL ✓ Kratom Alkaloids Low Level	ECOLI ✓ Total E. Coli & Coliforms Plate	MOS ✓ Moisture Content Loss on Drying	AFLA ✓ Aflatoxins USP <561>
PGUSP ✓ Pesticides USP <561>m	PLUSP ✓ Pesticides USP <561>m	TAMC ✓ Total Aerobic Bacteria Plate	SS ✓ Salmonella & STEC qPCR	AWA ✓ Water Activity
HVMET ✓ Heavy Metals 4	TYMFD ✓ Total Yeast & Mold Plate	PSEUD ✓ Pseudomonas aeruginosa Plate	FTIRR ✓ Identification by FTIR Report	

APPROVALS

RESULTS REVIEWED BY:



Leslie Varela
Laboratory Director

Cambium Analytica
Thursday, Feb 20, 2025

RESULTS CERTIFIED BY:



Douglas Smith
VP - Scientific Operations

Cambium Analytica
Thursday, Feb 20, 2025

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ALKU

KRATOM ALKALOIDS - HIGH LEVELLAB-TM-052 - DETERMINATION OF KRATOM ALKALOID CONTENT BY UPLC-DAD
ALKU-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	VALUE (MG/G)	ACTION LIMIT	LOD	LOQ	STATUS
Mitragynine	1.3476 %	13.476 mg/g	N/A	0.3 ug/g	0.5 ug/g	N/A
Speciociliatine	0.4159 %	4.159 mg/g	N/A	0.3 ug/g	0.5 ug/g	N/A
Paynantheine	0.2903 %	2.903 mg/g	N/A	0.3 ug/g	0.5 ug/g	N/A
Speciogyneine	0.1727 %	1.727 mg/g	N/A	0.3 ug/g	0.5 ug/g	N/A
Total Major Alkaloids	2.2265 %	22.265 mg/g	N/A	N/A	N/A	N/A

ALKL

KRATOM ALKALOIDS - LOW LEVELLAB-TM-047 - DETERMINATION OF KRATOM ALKALOID CONTENT BY LC-TQ
ALKL-DTS-250210-034-01 - FRI, FEB 14, 2025

ANALYTE	VALUE	VALUE (MG/G)	ACTION LIMIT	LOD	LOQ	STATUS
7-Hydroxymitragynine	0.00191 %	0.019 mg/g	N/A	0.002 ug/g	0.011 ug/g	N/A
Mitraphylline	0.00002 %	0 mg/g	N/A	0.004 ug/g	0.019 ug/g	N/A
Total Minor Alkaloids	0.00194 %	0.019 mg/g	N/A	0.006 ug/g	0.03 ug/g	N/A

ECOLI

TOTAL E. COLI & COLIFORMS - PLATELAB-TM-059 - ENUMERATION OF ESCHERICHIA COLI AND TOTAL COLIFORM IN FOODS AND DIETARY SUPPLEMENTS
ECOLI-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
E. coli	ND	N/A	10 CFU/g	10 CFU/g	N/A
Total Coliforms	>1500 CFU/g	N/A	10 CFU/g	10 CFU/g	N/A

MOS

MOISTURE CONTENT - LOSS ON DRYINGLAB-TM-008 - LOSS ON DRYING
MOS-DTS-250210-034-01 - FRI, FEB 14, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Moisture	4.1 %	N/A			N/A



AFLA

AFLATOXINS - USP <561>LAB-TM-043 - USP 561 AFLATOXINS ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY LC-TQ
AFLA-DTS-250210-034-01 - FRI, FEB 14, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Aflatoxin B1	ND	N/A	0.001 µg/g	0.002 µg/g	N/A
Aflatoxin B2	ND	N/A	0.001 µg/g	0.002 µg/g	N/A
Aflatoxin G1	ND	N/A	0.001 µg/g	0.002 µg/g	N/A
Aflatoxin G2	ND	N/A	0.001 µg/g	0.002 µg/g	N/A
Ochratoxin A	ND	N/A	0.001 µg/g	0.002 µg/g	N/A
Aflatoxins (Sum of B1, B2, G1, and G2)	ND	N/A			N/A



PGUSP

PESTICIDES - USP <561>M - GC/TQ

LAB-TM-039 - USP 561 PESTICIDES ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY GC/TQ
PGUSP-DTS-250210-034-01 - FRI, FEB 14, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Aldrin + Dieldrin	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Bromophos Ethyl	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Bromophos Methyl	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Bromopropylate	ND	3.00 ug/g	6 ng/g	12 ng/g	PASS
Chlordane (Sum of -Cis, -Trans, Oxychlordane)	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Chlorthal-Dimethyl	ND	0.01 ug/g	0.02 ng/g	0.04 ng/g	PASS
DDT (Sum of O,P-DDE, P,P-DDE, O,P-DDT, P,P-DDT, O,P-TDE, and P,P-TDE)	ND	1.00 ug/g	2 ng/g	4 ng/g	PASS
Dicofol	ND	0.50 ug/g	1 ng/g	2 ng/g	PASS
Endosulfan (Sum of Isomers and Sulphate)	ND	3.00 ug/g	6 ng/g	12 ng/g	PASS
Endrin	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Fenchlorophos (Sum of Fenchlorophos and Fenchlorophos-Oxon)	ND	0.10 ug/g	0.2 ng/g	0.4 ng/g	PASS
Fenitrothion	ND	0.50 ug/g	1 ng/g	2 ng/g	PASS
Fenvalerate	ND	1.50 ug/g	3 ng/g	6 ng/g	PASS
Fluvalinate-Tau	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Heptachlor (Sum of Heptachlor, Cis-Heptachlorepoide, and Trans-Heptachlorepoide)	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Hexachlorobenzene	ND	0.10 ug/g	0.2 ng/g	0.4 ng/g	PASS
Hexachlorocyclohexane (Sum of Isomers Alpha-, Beta-, Delta-, and Epsilon-)	ND	0.30 ug/g	0.6 ng/g	1.2 ng/g	PASS
Lindane (Gamma-Hexachlorocyclohexane)	ND	0.60 ug/g	1.2 ng/g	2.4 ng/g	PASS
Methacrifos	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Methoxychlor	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Mirex	ND	0.01 ug/g	0.02 ng/g	0.04 ng/g	PASS
Parathion Ethyl + Paraoxon Ethyl	ND	0.50 ug/g	1 ng/g	2 ng/g	PASS
Pentachloroanisole	ND	0.01 ug/g	0.02 ng/g	0.04 ng/g	PASS
Procymidone	ND	0.10 ug/g	0.2 ng/g	0.4 ng/g	PASS
Quintozene (Sum of Quintozene, Pentachloroaniline, and Methyl-Pentachlorophenyl Sulfide)	ND	1.00 ug/g	2 ng/g	4 ng/g	PASS

Modified Test Method does not include the following analytes:

Bromide, inorganic (calculated as bromide ion)

Chlorpyrifos-methyl

Dichlofluanid

Dithiocarbamates (expressed as CS₂)

Pirimiphos-methyl (sum of pirimiphos-methyl and N-desethyl-pirimiphos-methyl)



PGUSP

PESTICIDES - USP <561>M - GC/TQLAB-TM-039 - USP 561 PESTICIDES ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY GC/TQ
PGUSP-DTS-250210-034-01 - FRI, FEB 14, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
S-421	ND	0.02 ug/g	0.04 ng/g	0.08 ng/g	PASS
Tecnazene	ND	0.05 ug/g	0.1 ng/g	0.2 ng/g	PASS
Tetradifon	ND	0.30 ug/g	0.6 ng/g	1.2 ng/g	PASS
Vinclozolin	ND	0.40 ug/g	0.8 ng/g	1.6 ng/g	PASS

Modified Test Method does not include the following analytes:

Bromide, inorganic (calculated as bromide ion)

Chlorpyrifos-methyl

Dichlofluanid

Dithiocarbamates (expressed as CS₂)

Pirimiphos-methyl (sum of pirimiphos-methyl and N-desethyl-pirimiphos-methyl)



PLUSP

PESTICIDES - USP <561>M - LC/TQ

LAB-TM-038 - USP 561 PESTICIDE ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY LC/TQ
PLUSP-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Acephate	ND	0.40 ug/g	12.5 ng/g	25 ng/g	PASS
Alachlor	ND	N/A	12.5 ng/g	25 ng/g	N/A
Azinphos Ethyl	ND	N/A	12.5 ng/g	25 ng/g	N/A
Azinphos Methyl	ND	N/A	12.5 ng/g	25 ng/g	N/A
Chlorfenvinphos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Chlorpyrifos Ethyl	ND	N/A	12.5 ng/g	25 ng/g	N/A
Cyfluthrin	ND	1.00 ug/g	12.5 ng/g	25 ng/g	PASS
Cypermethrin	ND	1.00 ug/g	12.5 ng/g	25 ng/g	PASS
Deltamethrin	ND	N/A	12.5 ng/g	25 ng/g	N/A
Diazinon	ND	0.20 ug/g	12.5 ng/g	25 ng/g	PASS
Dichlorvos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Dimethoate + Omethoate	ND	N/A	12.5 ng/g	25 ng/g	N/A
Ethion	ND	N/A	12.5 ng/g	25 ng/g	N/A
Etrimphos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Fenpropathrin	ND	N/A	12.5 ng/g	25 ng/g	N/A
Fensulfothion (Sum of Fensulfothion, Fensulfothion-Oxon, Fensulfothion-Oxon-Sulfone, and Fensulfothion-Sulfone)	ND	N/A	12.5 ng/g	25 ng/g	N/A
Fenthion (Sum of Fenthion, Fenthion-Oxon, Fenthion-Oxon-Sulfone, Fenthion-Oxon-Sulfoxide, Fenthion-Sulfone, and Fenthion-Sulfoxide)	ND	N/A	12.5 ng/g	25 ng/g	N/A
Flucythrinate	ND	N/A	12.5 ng/g	25 ng/g	N/A
Fonophos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Lambda-Cyhalothrin	0.038 ug/g	N/A	12.5 ng/g	25 ng/g	N/A
Malathion + Malaoxon	ND	N/A	12.5 ng/g	25 ng/g	N/A
Mecarbam	ND	N/A	12.5 ng/g	25 ng/g	N/A
Methamidophos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Methidathion	ND	N/A	12.5 ng/g	25 ng/g	N/A
Monocrotophos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Pendimethalin	ND	N/A	12.5 ng/g	25 ng/g	N/A
Permethrins (Sum of Cis- and Trans-Permethrin)	ND	N/A	12.5 ng/g	25 ng/g	N/A
Phosalone	ND	N/A	12.5 ng/g	25 ng/g	N/A
Phosmet	ND	N/A	12.5 ng/g	25 ng/g	N/A

Modified Test Method does not include the following analytes:

Bromide, inorganic (calculated as bromide ion)

Chlorpyrifos-methyl

Dichlofluanid

Dithiocarbamates (expressed as CS₂)

Pirimiphos-methyl (sum of pirimiphos-methyl and N-desethyl-pirimiphos-methyl)



PLUSP

PESTICIDES - USP <561>M - LC/TQ

LAB-TM-038 - USP 561 PESTICIDE ANALYSIS IN ARTICLES OF BOTANICAL ORIGIN BY LC/TQ
PLUSP-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Piperonyl Butoxide	ND	N/A	12.5 ng/g	25 ng/g	N/A
Pirimiphos Ethyl	ND	N/A	12.5 ng/g	25 ng/g	N/A
Pirimiphos Methyl (Sum of Pirimiphos-Methyl and n- Desethyl-Pirimiphos-Methyl)	ND	N/A	12.5 ng/g	25 ng/g	N/A
Profenophos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Prothiophos	ND	N/A	12.5 ng/g	25 ng/g	N/A
Pyrethrins (Sum of Cinerin 1, Jasmolin 1, and Pyrethrin 1)	ND	N/A	12.5 ng/g	25 ng/g	N/A
Quinalphos	ND	N/A	12.5 ng/g	25 ng/g	N/A

Modified Test Method does not include the following analytes:

Bromide, inorganic (calculated as bromide ion)

Chlorpyrifos-methyl

Dichlofluanid

Dithiocarbamates (expressed as CS₂)

Pirimiphos-methyl (sum of pirimiphos-methyl and N-desethyl-pirimiphos-methyl)



TAMC

TOTAL AEROBIC BACTERIA - PLATELAB-TM-060 - ENUMERATION OF TOTAL AEROBIC COUNT IN FOODS AND DIETARY SUPPLEMENTS
TAMC-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Aerobic Count	70000 CFU/g	N/A	100 CFU/g	100 CFU/g	N/A

SS

SALMONELLA & STEC- QPCRLAB-TM-006 - MICROBIAL ANALYSIS BY QPCR
SS-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Salmonella Spp	ND	N/A	N/A	N/A	N/A
Shiga Toxin Producing E. coli	ND	N/A	N/A	N/A	N/A

AWA

WATER ACTIVITYLAB-TM-009 - DETERMINATION OF WATER ACTIVITY
AWA-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Water Activity	0.204 aw	N/A	N/A	N/A	N/A

HVMET

HEAVY METALS - 4LAB-TM-044 - DETERMINATION OF HEAVY METALS BY ICP-MS
HVMET-DTS-250210-034-01 - THU, FEB 13, 2025

ANALYTE	VALUE	VALUE (MG/G)	ACTION LIMIT	LOD	LOQ	STATUS
Arsenic	0.115 ug/g	0 mg/g	N/A	0.198 ug/kg	0.662 ug/kg	N/A
Cadmium	0.028 ug/g	0 mg/g	N/A	0.082 ug/kg	0.272 ug/kg	N/A
Lead	0.585 ug/g	0.001 mg/g	N/A	0.155 ug/kg	0.515 ug/kg	N/A
Mercury	0.019 ug/g	0 mg/g	N/A	0.017 ug/kg	0.057 ug/kg	N/A

TYMFD

TOTAL YEAST & MOLD - PLATELAB-TM-061 - ENUMERATION OF YEAST AND MOLD IN FOODS AND DIETARY SUPPLEMENTS
TYMFD-DTS-250210-034-01 - FRI, FEB 14, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Total Yeast and Mold	340 CFU/g	N/A	100 CFU/g	100 CFU/g	N/A

PSEUD

PSEUDOMONAS AERUGINOSA - PLATELAB-TM-088 - DETECTION OF PRESUMPTIVE PSEUDOMONAS AERUGINOSA
PSEUD-DTS-250210-034-01 - THU, FEB 20, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Pseudomonas aeruginosa	ND	N/A	1 CFU/g	1 CFU/g	N/A





IDENTIFICATION BY FTIR - REPORT

NULL IDENTIFICATION BY FTIR
FTIR-DTS-250210-034-01 - FRI, FEB 14, 2025

ANALYTE	VALUE	ACTION LIMIT	LOD	LOQ	STATUS
Quality Index Score	98.96 %	N/A	N/A	N/A	N/A

Matched Library Item: Raw Leaf

