UNIVERSAL DIAGNOSTICS®
Universal Diagnostics
673 N. Bardstown Rd.
Mount Washington, KY, 40047
(502) 444-2044
www.UD-Labs.com
Lic # 19-05-02P

Certificate of Analysis

Recovery Roll On
Matrix: Derivative
Accession Number: 080221UD0013
Harvest/Lot ID:
Seed to Sale: *
Batch Date: 07/19/21
Batch #:
Sample Size Received: 1 units
Retail Product Size:
Ordered: 08/02/21
Completed: 08/04/21
Expires: 08/03/22
Sampling Method: SOP Client Method

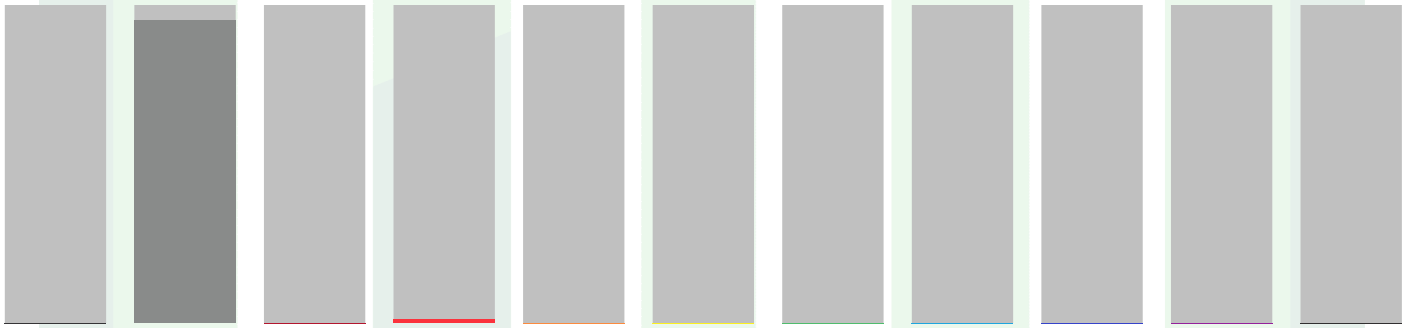
Aug 04,2021 | Applied Botanics

Louisville, KY,
(502) 694-6001

applied botanics
LIVE HEALTHY + HAPPY

CANNABINOID RESULTS

Total THC	Total CBD	Total Cannabinoids
0.000%	2.301%	2.326%



	CBC	CBD	CBDA	CBDV	CBG	CBGA	CBN	D8-THC	D9-THC	THCA	THCV
	ND	2.301%	ND	0.025%	ND	ND	ND	ND	ND	ND	ND
	ND	23.010 mg/g	ND	0.250 mg/g	ND	ND	ND	ND	ND	ND	ND
LOD	0.001	0.0001	0.001	0.001	0.001	0.001	0.001	0.001	0.0001	0.001	0.001

Analyzed by	Date	Instrument used	Analysis Method
	08/02/2021	Shimadzu HPLC w/ PDA	

Full spectrum cannabinoid analysis utilizing High Performance Liquid Chromatography with UV detection (HPLC-PDA). (Method: SOP.KY.02.005) sample prep and Shimadzu High Sensitivity Method SOP.KY.02.012 for analysis. LOQ for all cannabinoids is 1 mg/L). % = %w/w = Percent (Weight of Analyte/Weight Product) Total Cannabinoids result reflects the absolute sum of all cannabinoids detected. **Total Potential THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation Total THC = THC + (THCa*0.877) Total CBD = CBD + (CBDa*0.877)

Filth & Foreign Matter	PASSED

Analyzed by	Date	Instrument used	Analysis Method
	08/02/2021	Microscope (Amscope)	

This includes but is not limited to hair, insects, feces, packaging contaminants, and manufacturing waste and by-products. An SH-2B/T Stereo Microscope is use for inspection. SOP.KY.02.11

Daniel Burriss
Lab Director
State License # 19-05-02P
ISO Accreditation # PJLA ISO17025

Signature

08/04/21
Signed On

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Pesticides

PASSED

Pesticides	LLOQ	Result	Units	Action Level	Pass / Fail	Pesticides	LLOQ	Result	Units	Action Level	Pass / Fail
Abamectin B1a	0.02	ND	ppm	0.5	PASS	Acephate	0.01	ND	ppm	0.4	PASS
Acequinocyl	0.05	ND	ppm	2	PASS	Acetamiprid	0.01	ND	ppm	0.2	PASS
Aldicarb	0.02	ND	ppm	0.4	PASS	Azoxystrobin	0.01	ND	ppm	0.2	PASS
Bifenazate	0.01	ND	ppm	0.2	PASS	Bifenthrin	0.01	ND	ppm	0.2	PASS
Boscalid	0.01	ND	ppm	0.4	PASS	Carbaryl	0.01	ND	ppm	0.2	PASS
Carbofuran	0.01	ND	ppm	0.2	PASS	Chlorantraniliprole	0.01	ND	ppm	0.2	PASS
Chlorpyrifos	0.01	ND	ppm	0.2	PASS	Clofentezine	0.01	ND	ppm	0.2	PASS
Coumaphos	0.01	ND	ppm	0.2	PASS	Cypermethrin	0.02	ND	ppm	1	PASS
Daminozide	0.02	ND	ppm	1	PASS	Diazanon	0.01	ND	ppm	0.2	PASS
Dichlorvos	0.05	ND	ppm	0.1	PASS	Dimethoate	0.01	ND	ppm	0.2	PASS
Dimethomorph	0.005	ND	ppm	0.1	PASS	Ethoprophos	0.01	ND	ppm	0.2	PASS
Etofenprox	0.01	ND	ppm	0.4	PASS	Etoxazole	0.01	ND	ppm	0.2	PASS
Fenhexamid	0.005	ND	ppm	0.1	PASS	Fenoxycarb	0.01	ND	ppm	0.2	PASS
Fenpyroximate	0.01	ND	ppm	0.4	PASS	Fipronil	0.02	ND	ppm	0.4	PASS
Flonicamid	0.01	ND	ppm	1	PASS	Fludioxonil	0.01	ND	ppm	0.4	PASS
Hexythiazox	0.01	ND	ppm	1	PASS	Imazalil	0.01	ND	ppm	0.2	PASS
Imidacloprid	0.01	ND	ppm	0.4	PASS	Kresoxim-Methyl	0.01	ND	ppm	0.4	PASS
Malathion	0.01	ND	ppm	0.2	PASS	Metalaxyl	0.01	ND	ppm	0.2	PASS
Methiocarb	0.01	ND	ppm	0.2	PASS	Methomyl	0.01	ND	ppm	0.4	PASS
Mevinphos	0.01	ND	ppm	0.1	PASS	Myclobutanil	0.01	ND	ppm	0.2	PASS
Naled	0.01	ND	ppm	0.5	PASS	Oxamyl	0.01	ND	ppm	1	PASS
Paclobutrazol	0.01	ND	ppm	0.4	PASS	Permethrins (sum)	0.05	ND	ppm	1	PASS
Phosmet	0.01	ND	ppm	0.2	PASS	Piperonyl Butoxide	0.01	ND	ppm	2	PASS
Prallethrin	0.05	ND	ppm	0.2	PASS	Propiconazole	0.01	ND	ppm	0.4	PASS
Propoxur	0.01	ND	ppm	0.2	PASS	Pyrethrin I	0.01	ND	ppm	1	PASS
Pyridaben	0.01	ND	ppm	0.2	PASS	Spinetoram	0.01	ND	ppm	0.5	PASS
Spinosad (Spinosyn A)	0.01	ND	ppm	0.2	PASS	Spinosad (Spinosyn D)	0.01	ND	ppm	0.2	PASS
Spiromesifen	0.01	ND	ppm	0.2	PASS	Spirotetramat	0.02	ND	ppm	0.2	PASS
Spiroxamine	0.01	ND	ppm	0.2	PASS	Tebuconazole	0.01	ND	ppm	0.4	PASS
Thiacloprid	0.01	ND	ppm	0.2	PASS	Thiamethoxam	0.01	ND	ppm	0.2	PASS
Trifloxystrobin	0.01	ND	ppm	0.2	PASS	cis-Permethrin	0.0041	ND	ppm	0.4	PASS
trans-Permethrin	0.0118	ND	ppm	0.4	PASS						

Analyzed by	Date	Instrument used	Analysis Method
	08/02/2021	Shimadzu LCMSMS 8060	

Pesticide screening is performed using LC/MS/MS which can screen down to below single digit ppb concentrations for the 57 pesticides analyzed. (Method: SOP.KY.02.022)

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Lab Director
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ISO Accreditation # PJLA ISO17025

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Mycotoxins — PASSED

Analyte	LLOQ	Result	Units	Action Level	Pass / Fail	Analyte	LLOQ	Result	Units	Action Level	Pass / Fail
Aflatoxin B1	0.001	ND	ppm	0.2	PASS	Aflatoxin B2	0.001	ND	ppm	0.2	PASS
Aflatoxin G1	0.001	ND	ppm	0.2	PASS	Aflatoxin G2	0.001	ND	ppm	0.2	PASS
Ocratoxin A+	0.001	ND	ppm	0.2	PASS						

Analyzed by	Date	Instrument used	Analysis Method
	08/02/2021	Shimadzu LCMSMS 8060	

Aflatoxins B1, B2, G1, G2, and Ochratoxins A testing using LC/MS/MS. (Method: SOP.KY.02.022)

Residual Solvents — PASSED

Solvent	LLOQ	Result	Units	Action Level (PPM)	Pass/Fail
2-Propanol	60.0	ND	ppm	5000	PASS
Acetone	60	ND	ppm	5000	PASS
Acetonitrile	60	ND	ppm	410	PASS
Butane	200	ND	ppm	5000	PASS
Ethanol	80	ND	ppm	5000	PASS
Ethyl Acetate	60	ND	ppm	5000	PASS
Ethyl Ether	40	ND	ppm	5000	PASS
Heptane	40	ND	ppm	5000	PASS
Hexane	40	ND	ppm	290	PASS
Isobutane	200	ND	ppm	5000	PASS
M/P-Xylene	80	ND	ppm	2170	PASS
Methanol	40	ND	ppm	3000	PASS
O-Xylene	40	ND	ppm	2170	PASS
Pentane	60	ND	ppm	5000	PASS
Propane	400	ND	ppm	5000	PASS
Toluene	40	ND	ppm	890	PASS
Total Xylenes	120	ND	ppm	2170	PASS

Analyzed by	Date	Instrument used	Analysis Method
	08/02/2021	Shimadzu GC 2010+	

Residual solvents testing for 16 common extraction solvents is performed via GC/MS. (Method: SOP.KY.02.024)

Heavy Metals — PASSED

Metal	LLOQ	Result	Unit	Action Level	Pass / Fail
Arsenic	0.2	ND	ppm	2	PASS
Cadmium	0.2	ND	ppm	2	PASS
Lead	0.2	ND	ppm	5	PASS
Mercury	0.2	ND	ppm	1	PASS

Analyzed by	Date	Instrument used	Analysis Method
	08/02/2021	Shimadzu ICP/MS	

Heavy Metals screening is performed using ICP-MS (Inductively Coupled Plasma – Mass Spectrometer) which can screen for toxic heavy metals (Arsenic, Cadmium, Lead, and Mercury). (Method SOP.KY.02.020)

Microbials — PASSED

Analyte	Result
Aspergillus Flavus	not present in 1 gram.
Aspergillus Fumigatus	not present in 1 gram.
Aspergillus Niger	not present in 1 gram.
Aspergillus Terreus	not present in 1 gram.
E. Coli	not present in 1 gram.
Salmonella	not present in 1 gram.

Analyzed by	Date	Instrument used	Analysis Method
	08/02/2021	PathogenDX	

Microbiological testing for Fungal and Bacterial Identification via Polymerase Chain Reaction (PCR) method consisting of sample DNA amplified via tandem Polymerase Chain Reaction (PCR) as a crude lysate which avoids purification. (Method SOP.KY.02.018) If a pathogenic Escherichia Coli, Salmonella, Aspergillus fumigatus, Aspergillus flavus, Aspergillus niger, or Aspergillus terreus is detected in 1g of a sample, the sample fails the microbiological-impurity testing.

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