CERTIFICATE OF ANALYSIS

PRODUCT NAME: Certified Organic CBD Tincture - Natural
PRODUCT STRENGTH: 450 mg
TINCTURE BATCH: 22004A
BEST BY DATE: 07/04/2023
HEMP EXTRACT LOT: C1116-002

Click on the links to view third-party reports

Physical Atttributes

Test	Method	Specification	Results
Color	Internal	Golden to Amber	PASS
Odor	Internal	Characteristic - Olive and Hemp	PASS
Appearance	Internal	Golden to Amber oil in brown glass bottle with dropper.	PASS
Primary Package Eval.	Internal	Container clean and free of filth. Container caps tight and shrink bands intact	PASS
Secondary Package Eval.	Internal	Labeling Compliance Checked, Cartons sturdy and clean. Sufficient cushion material exists. Box taped and secure.	PASS

Review of Third-Party Analysis

Panel	Method	Specification	Results*	Pass/Fail
Potency - Total CBD	HPLC-UV DAD	*LOQ: ≥ 450 mg / bottle	**541.4mg**	PASS
Potency - D9-THC	HPLC-UV DAD	Complies with CDPHE 6 CCR 1010-21 THC 0.0%	**ND**	PASS
Expanded Pesticide Panel	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	**Below LOQ**	PASS
Microbial Escherichia coli (STEC)	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 **CFU/25 gram	**Absent**	PASS
Microbial Salmonella	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	**Absent**	PASS
Microbial Yeast and Mold	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10^2 CFU/gram	**Below LOQ**	PASS
Microbial Total Coliforms*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10^2 CFU/gram	**Below LOQ**	PASS
Microbial Total Aerobic Count*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10^3 CFU/gram	**Below LOQ**	PASS
Heavy Metals	ICP-MS	Arsenic (As): ≤1.5 ppm† Cadmium (Cd): ≤0.5 ppm Lead (Pb): ≤0.5 ppm Mercury (Hg): ≤1.5 ppm	**Below LOQ**	PASS
Mycotoxins	ICP-MS	Total Aflatoxins <20 ppb†† Afltoxin B1 < 20 ppb Ochratoxin < 20 ppb	**Below LOQ**	PASS
Residual Solvents	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	**Below LOQ**	PASS

*Level of Quantificatio
**Colony Forming Units per Gram
† Parts Per Million † † Part Per Billion

Values expressed in scientific notation.
Examples:
10^2=100
10^3=1,000

Quality Certified Keegan Schlittler 01/11/2022
Keegan Schlittler
Quality Assurance Manager
Date

botanacor

Official Compliance: Colorado

CERTIFICATE OF ANALYSIS

27836

Batch ID or Lot Number:	Test:	Reported:
C1116-002	**Potency**	**11/23/21**

Matrix:	Test ID:	Started:	USDA License:
Solution	T000177403	11/22/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis (Colorado Panel)	11/19/2021 @ 10:26 AM	N/A

CANNABINOID PROFILE

Compound	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.156	0.441	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.176	0.498	ND	ND
Cannabidiolic acid (CBDA)	0.167	0.514	ND	ND
Cannabidiol (CBD)	0.163	0.502	18.048	19.62
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.193	0.549	ND	ND
Cannabinolic Acid (CBNA)	0.111	0.314	ND	ND
Cannabinol (CBN)	0.051	0.144	ND	ND
Cannabigerolic acid (CBGA)	0.162	0.460	ND	ND
Cannabigerol (CBG)	0.039	0.110	1.255	1.36
Tetrahydrocannabivarinic Acid (THCVA)	0.137	0.389	ND	ND
Tetrahydrocannabivarin (THCV)	0.035	0.100	ND	ND
Cannabidivarinic Acid (CBDVA)	0.070	0.215	ND	ND
Cannabidivarin (CBDV)	0.039	0.119	0.126	0.14
Cannabichromenic Acid (CBCA)	0.063	0.177	ND	ND
Cannabichromene (CBC)	0.068	0.194	ND	ND
Total Cannabinoids			**19.429**	**21.12**
Total Potential THC**			ND	ND
Total Potential CBD**			18.048	19.62

Notes

Density = 0.92g/mL

Daniel Weidensaul
23-Nov-2021
05:10 PM

PREPARED BY / DATE

Ryan Weems
23-Nov-21
5:13 PM

APPROVED BY / DATE

Definitions

% = % (w/w) = Percent (Weight of Analyte / Weight of Product)

* Indicates a value below the Limit of Quantitation (LOQ) and above the Limit of Detection (LOD).

** Total Potential THC/CBD is calculated using the following formulas to take into account the loss of a carboxyl group during decarboxylation step.

Total THC = THC + (THCa *(0.877)) and

Total CBD = CBD + (CBDa *(0.877))

Total Cannabinoids result reflects the absolute sum of all cannabinoids detected.

ND = None Detected (Defined by Dynamic Range of the method)

CDPHE Certified

Certificate #4329.02

Testing results are based solely upon the sample submitted to Botanacor Laboratories, LLC, in the condition it was received. Botanacor Laboratories, LLC warrants that all analytical work is conducted professionally in accordance with all applicable standard laboratory practices using validated methods. Data was generated using an unbroken chain of comparison to NIST traceable Reference Standards and Certified Reference Materials. This report may not be reproduced, except in full, without the written approval of Botanacor Laboratories, LLC.

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CERTIFICATE OF ANALYSIS

27836

Batch ID or Lot Number:	Test:	Reported:
C1116-002	**Pesticides**	**11/29/21**

Matrix:	Test ID:	Started:	USDA License:
Concentrate	T000177404	11/29/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM17(LC-QQQ LC MS/MS):	11/19/2021 @ 10:26 AM	N/A

PESTICIDE DETERMINATION

Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)	Compound	LOQ (ppb)	Result (ppb)
Acephate	34	ND	**Fenoxycarb**	47	ND	**Paclobutrazol**	43	ND
Acetamiprid	43	ND	**Fipronil**	2	ND	**Permethrin**	283	ND
Avermectin	274	ND	**Flonicamid**	47	ND	**Phosmet**	36	ND
Azoxystrobin	46	ND	**Fludioxonil**	292	ND	**Prophos**	283	ND
Bifenazate	43	ND	**Hexythiazox**	41	ND	**Propoxur**	43	ND
Boscalid	55	ND	**Imazalil**	286	ND	**Pyridaben**	287	ND
Carbaryl	41	ND	**Imidacloprid**	48	ND	**Spinosad A**	35	ND
Carbofuran	43	ND	**Kresoxim-methyl**	150	ND	**Spinosad D**	51	ND
Chlorantraniliprole	47	ND	**Malathion**	294	ND	**Spiromesifen**	274	ND
Chlorpyrifos	500	ND	**Metalaxyl**	45	ND	**Spirotetramat**	287	ND
Clofentezine	281	ND	**Methiocarb**	41	ND	**Spiroxamine 1**	29	ND
Diazinon	285	ND	**Methomyl**	42	ND	**Spiroxamine 2**	27	ND
Dichlorvos	320	ND	**MGK 264 1**	158	ND	**Tebuconazole**	289	ND
Dimethoate	45	ND	**MGK 264 2**	127	ND	**Thiacloprid**	43	ND
E-Fenpyroximate	287	ND	**Myclobutanil**	42	ND	**Thiamethoxam**	36	ND
Etofenprox	46	ND	**Naled**	41	ND	**Trifloxystrobin**	48	ND
Etoxazole	296	ND	**Oxamyl**	1500	ND			

Samantha Smith
Sam Smith
11/29/2021
5:56:00 PM
PREPARED BY / DATE

Daniel Weidensaul
Daniel Weidensaul
11/29/2021
6:39:00 PM
APPROVED BY / DATE

Definitions

LOQ = Limit of Quantification
ppb = Parts per Billion

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ilac-MRA A2LA ACCREDITED
Certificate #4329.02

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CERTIFICATE OF ANALYSIS

OTNAT450-

Batch ID or Lot Number:	Test:	Reported:	
22004A	**Microbial Contaminants**	**1/10/22**	
Matrix:	Test ID:	Started:	USDA License:
Finished Product	T000185632	1/6/22	N/A
Status:	Methods:	Received:	Sampler ID:
N/A	TM25 (qPCR) TM24, TM26, TM27(Culture Plating): Microbial (Colorado Panel)	01/05/2022 @ 10:20 AM	N/A

MICROBIAL CONTAMINANTS DETERMINATION

Contaminant	Method	LOD	LLOQ	ULOQ	Result
Total Aerobic Count*	TM-26, Culture Plating	10^2 CFU/g	10^3 CFU/g	1.5x10^5 CFU/g	None Detected
Total Coliforms*	TM-27, Culture Plating	10^1 CFU/g	10^2 CFU/g	1.5x10^4 CFU/g	None Detected
Total Yeast and Mold*	TM-24, Culture Plating	10^1 CFU/g	10^2 CFU/g	1.5x10^4 CFU/g	None Detected
E. coli (STEC)	TM-25, PCR	1 CFU/25 g	NA	NA	Absent
Salmonella	TM-25, PCR	1 CFU/25 g	NA	NA	Absent

Notes

Free from visual mold, mildew, and foreign matter

Brett Hudson
1/10/2022
4:09:00 PM

PREPARED BY / DATE

Eden Thompson-Wright
1/10/2022
5:16:00 PM

APPROVED BY / DATE

Definitions

LOD = Limit of Detection | LLOQ = Lower Limit of Quantitation | ULOQ = Upper Limit of Quantitation
CFU/g = Colony Forming Units per Gram | STEC = Shiga Toxin-Producing *E. coli*
* Values recorded in scientific notation, a common microbial practice of expressing numbers that are too large to be conveniently written in decimal form.

Examples:
10^2 = 100 CFU
10^3 = 1,000 CFU
10^4 = 10,000 CFU
10^5 = 100,000 CFU

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27836

Batch ID or Lot Number:	Test:	Reported:
C1116-002	**Metals**	**11/23/21**

Matrix:	Test ID:	Started:	USDA License:
Unit Co	T000177406	11/22/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM19 (ICP-MS): Heavy Metals (Colorado Panel)	11/19/2021 @ 10:26 AM	N/A

HEAVY METALS DETERMINATION

Compound	Dynamic Range (ppm)	Result (ppm)
Arsenic	0.040 - 4.04	ND
Cadmium	0.042 - 4.23	ND
Mercury	0.042 - 4.15	ND
Lead	0.042 - 4.23	ND

Notes

Ryan Weems
23-Nov-21
1:03 PM
PREPARED BY / DATE

Sam Smith
23-Nov-21
1:07 PM
APPROVED BY / DATE

Definitions

ND = None Detected (Defined by Dynamic Range of the method)

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Certificate #4329.02

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Batch ID or Lot Number:	Test:	Reported:
C1116-002	**Mycotoxins**	**11/29/21**

Matrix:	Test ID:	Started:	USDA License:
Concentrate	T000177408	11/24/21	N/A

Status:	Method:	Received:	Sampler ID:
N/A	TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins (Colorado Panel)	11/19/2021 @ 10:26 AM	N/A

MYCOTOXIN DETERMINATION

Compound	Dynamic Range (ppb)	Result (ppb)
Ochratoxin A	4.3 - 132.2	ND
Aflatoxin B1	1.2 - 33.6	ND
Aflatoxin B2	1.2 - 33.7	ND
Aflatoxin G1	1.2 - 33.8	ND
Aflatoxin G2	1.2 - 32.9	ND
Total Aflatoxins (B1, B2, G1, and G2)		ND

Notes

N/A

Ryan Weems
29-Nov-21
3:49 PM
PREPARED BY / DATE

Sam Smith
29-Nov-21
4:04 PM
APPROVED BY / DATE

Definitions

ND = None Detected (Defined by Dynamic Range of the method)

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Batch ID or Lot Number:	Test:	Reported:
C1116-002	**Residual Solvents**	**11/24/21**

Matrix:	Test ID:	Started:	USDA License:
N/A	T000177407	11/23/21	N/A

Status:	Methods:	Received:	Sampler ID:
N/A	TM04 (GC-MS): Residual Solvents (Colorado Panel)	11/19/2021 @ 10:26 AM	N/A

RESIDUAL SOLVENTS DETERMINATION

Solvent	Dynamic Range (ppm)	Result (ppm)
Propane	105 - 2092	*ND
Butanes (Isobutane, n-Butane)	209 - 4183	*ND
Methanol	64 - 1278	*ND
Pentane	87 - 1737	*ND
Ethanol	92 - 1845	*ND
Acetone	102 - 2041	*ND
Isopropyl Alcohol	109 - 2186	*ND
Hexane	6 - 124	*ND
Ethyl Acetate	104 - 2088	*ND
Benzene	0.2 - 4.1	*ND
Heptanes	98 - 1950	*ND
Toluene	19 - 378	*ND
Xylenes (m,p,o-Xylenes)	137 - 2737	*ND

Notes

Sam Smith
24-Nov-21
2:14 PM
PREPARED BY / DATE

Ryan Weems
24-Nov-21
2:15 PM
APPROVED BY / DATE

Definitions

* ND = None Detected (Defined by Dynamic Range of the method)

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Certificate #4329.02

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