

# CERTIFICATE OF ANALYSIS

<b>PRODUCT NAME:</b>	Organic CBD Tincture - Natural
<b>PRODUCT STRENGTH:</b>	900mg
<b>TINCTURE BATCH:</b>	220614A, 220527F, 220629B
<b>BEST BY DATE:</b>	6/8/2024
<b>HEMP EXTRACT LOT:</b>	BCA-000389-220607

### Physical Attributes


Test	Method	Specification	Results
Color	Joy Internal	Golden to Amber	PASS
Odor	Joy Internal	Characteristic - Olive and Hemp	PASS
Appearance	Joy Internal	Golden to Amber oil in brown glass bottle with dropper.	PASS
Primary Package Eval.	Joy Internal	Container clean and free of filth. Container caps tight and shrink bands intact	PASS
Secondary Package Eval.	Joy 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
<b>Potency - Total CBD</b>	HPLC-UV DAD	*NLT (product strength) mg / bottle	<b>32.4mg</b>	PASS
<b>Potency - D9-THC</b>	HPLC-UV DAD	LOQ: 10 ppm (.001-0.3%)	<b>ND</b>	PASS
<b>Expanded Pesticide Panel</b>	HPLC-QQQ	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>ND</b>	PASS
<b>Microbial</b> Escherichia coli (STEC)	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	<b>Absent</b>	PASS
<b>Microbial</b> Salmonella	PCR	Complies with CDPHE 6 CCR 1010-21 - LOQ 1 CFU/25 gram	<b>Absent</b>	PASS
<b>Microbial</b> Yeast and Mold	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>2</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Coliforms*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>2</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Microbial</b> Total Aerobic Count*	Culture Plating	Complies with CDPHE 6 CCR 1010-21 - LOQ 10 <sup>3</sup> CFU/gram	<b>Below LOQ</b>	PASS
<b>Heavy Metals Panel</b>	ICP-MS	Arsenic (As): ≤1.5 ppm Cadmium (Cd): ≤0.5 ppm Lead (Pb): ≤0.5 ppm Mercury (Hg): ≤1.5 ppm	<b>ND</b>	PASS
<b>Mycotoxins</b>	ICP-MS	Total Aflatoxins <20 ppb† Afltoxin B1 < 5 ppb Ochratoxin < 5ppb	<b>ND</b>	PASS
<b>Residual Solvents</b>	GC-HS-MSD	LOQ: Complies with CDPHE 6 CCR 1010-21 Industrial Hemp Extract	<b>ND</b>	PASS

\* Level of Quantitation, † Parts Per Million ‡ Part Per Billion CFU/g=Colony Forming Units per Gram  
\*Nothing Less Than  
10<sup>2</sup>=100 CFU  
10<sup>3</sup>=1,000 CFU

Quality Certified

  
Name \_\_\_\_\_

8/10/22

Date

### 900 Natural

Batch ID or Lot Number: 220614A, 220527F	Test: <b>Potency</b>	Reported: <b>24Jun2022</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000211077	Started: 23Jun2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD)	Received: 21Jun2022	Status: N/A

### Cannabinoids

	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.006	0.017	ND	ND	
Cannabichromenic Acid (CBCA)	0.005	0.016	ND	ND	
Cannabidiol (CBD)	0.013	0.044	3.530	35.30	
Cannabidiolic Acid (CBDA)	0.013	0.045	ND	ND	
Cannabidivarin (CBDV)	0.003	0.010	0.020	0.20	
Cannabidivarinic Acid (CBDVA)	0.006	0.019	ND	ND	
Cannabigerol (CBG)	0.003	0.010	0.260	2.60	
Cannabigerolic Acid (CBGA)	0.013	0.041	ND	ND	
Cannabinol (CBN)	0.004	0.013	ND	ND	
Cannabinolic Acid (CBNA)	0.009	0.028	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.016	0.049	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.014	0.044	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.013	0.039	ND	ND	
Tetrahydrocannabivarin (THCV)	0.003	0.009	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.011	0.035	ND	ND	
<b>Total Cannabinoids</b>			<b>3.810</b>	<b>38.10</b>	
Total Potential THC			ND	ND	
Total Potential CBD			3.530	35.30	

### Final Approval



Daniel Weidensaul  
24Jun2022  
01:26:00 PM MDT

PREPARED BY / DATE



Jacob Miller  
24Jun2022  
01:28:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/eecf286e-fc8c-465b-bbb7-378f08c5914d>

**Definitions**  
% = % (w/w) = Percent (weight of analyte / weight of product). ND = None Detected (defined by dynamic range of the method).  
Total Potential Delta 9-THC or CBD is calculated to take into account the loss of a carboxyl group during decarboxylation step, using the following formulas: Total Potential Delta 9-THC = Delta 9-THC + (Delta 9-THCa \*(0.877)) and Total CBD = CBD + (CBDA \*(0.877)).

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. ISO/IEC 17025:2017 Accredited by A2LA.



Cert #4329.02  
eecf286efc8c465bbb7378f08c5914d.1

**900 mg 5G Broad Spectrum Tincture Bulk in EVOO**

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Pesticides</b>	Reported: <b>16Jun2022</b>	USDA License: NA
Matrix: Concentrate	Test ID: T000209812	Started: 14Jun2022	Sampler ID: NA
	Method(s): TM17 (LC-QQ LC MS/MS)	Received: 10Jun2022	Status: NA

Pesticides	Dynamic Range (ppb)	Result (ppb)	Pesticides	Dynamic Range (ppb)	Result (ppb)
Abamectin	365 - 2660	ND	Malathion	304 - 2758	ND
Acephate	45 - 2774	ND	Metalaxyl	51 - 2788	ND
Acetamiprid	43 - 2778	ND	Methiocarb	39 - 2735	ND
Azoxystrobin	40 - 2739	ND	Methomyl	42 - 2747	ND
Bifenazate	42 - 2765	ND	MGK 264 1	187 - 1618	ND
Boscalid	15 - 2744	ND	MGK 264 2	129 - 1129	ND
Carbaryl	40 - 2776	ND	Myclobutanil	37 - 2661	ND
Carbofuran	43 - 2761	ND	Naled	28 - 2666	ND
Chlorantraniliprole	46 - 2731	ND	Oxamyl	3 - 2768	ND
Chlorpyrifos	47 - 2776	ND	Pacllobutrazol	41 - 2732	ND
Clofentezine	306 - 2776	ND	Permethrin	340 - 2681	ND
Diazinon	298 - 2777	ND	Phosmet	41 - 2752	ND
Dichlorvos	311 - 2758	ND	Prophos	290 - 2708	ND
Dimethoate	45 - 2766	ND	Propoxur	39 - 2744	ND
E-Fenpyroximate	296 - 2737	ND	Pyridaben	302 - 2767	ND
Etofenprox	42 - 2726	ND	Spinosad A	36 - 2242	ND
Etoxazole	299 - 2708	ND	Spinosad D	55 - 497	ND
Fenoxycarb	45 - 2737	ND	Spiromesifen	306 - 2722	ND
Fipronil	39 - 2733	ND	Spirotetramat	292 - 2784	ND
Flonicamid	4 - 2732	ND	Spiroxamine 1	17 - 1160	ND
Fludioxonil	260 - 2633	ND	Spiroxamine 2	21 - 1502	ND
Hexythiazox	49 - 2737	ND	Tebuconazole	259 - 2755	ND
Imazalil	286 - 2760	ND	Thiacloprid	41 - 2763	ND
Imidacloprid	51 - 2800	ND	Thiamethoxam	45 - 2752	ND
Kresoxim-methyl	53 - 2822	ND	Trifloxystrobin	41 - 2736	ND

**Final Approval**



Karen Winternheimer  
16Jun2022  
04:48:00 PM MDT

PREPARED BY / DATE



Daniel Weidensaul  
16Jun2022  
05:01:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/f3024b12-9b3e-454e-8b15-031fa6dc723d>

**Definitions**

ND = None Detected (defined by dynamic range of the method)  
Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range  
ppb = Parts Per Billion

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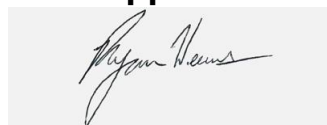
Cert #4329.02  
f3024b129b3e454e8b15031fa6dc723d.1

### 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Heavy Metals</b>	Reported: <b>14Jun2022</b>	USDA License: NA
Matrix: Unit Co	Test ID: T000209813	Started: 14Jun2022	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 10Jun2022	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.05 - 4.58	ND	
Cadmium	0.05 - 4.53	ND	
Mercury	0.04 - 4.43	ND	
Lead	0.05 - 4.66	ND	

### Final Approval



Ryan Weems  
 14Jun2022  
 02:50:00 PM MDT

PREPARED BY / DATE



Daniel Weidensaul  
 14Jun2022  
 02:53:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/f6748d30-6fdd-4791-80a7-c909ec3f3a99>

#### Definitions

ND = None Detected (defined by dynamic range of the method)  
 Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range

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Cert #4329.02

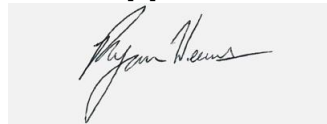
CDPHE Certified  
 f6748d306fdd479180a7c909ec3f3a99.1

### 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Potency</b>	Reported: <b>14Jun2022</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000209811	Started: 13Jun2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 10Jun2022	Status: Active

Cannabinoids	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.017	0.054	ND	ND	
Cannabichromenic Acid (CBCA)	0.015	0.049	ND	ND	
Cannabidiol (CBD)	0.047	0.139	3.405	34.05	
Cannabidiolic Acid (CBDA)	0.048	0.143	ND	ND	
Cannabidivarin (CBDV)	0.011	0.033	<LOQ	0.12	
Cannabidivarinic Acid (CBDVA)	0.020	0.060	ND	ND	
Cannabigerol (CBG)	0.009	0.030	0.221	2.21	
Cannabigerolic Acid (CBGA)	0.039	0.127	ND	ND	
Cannabinol (CBN)	0.012	0.040	ND	ND	
Cannabinolic Acid (CBNA)	0.027	0.087	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.047	0.152	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.042	0.138	ND	ND	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.038	0.122	ND	ND	
Tetrahydrocannabivarin (THCV)	0.009	0.028	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.033	0.108	ND	ND	
<b>Total Cannabinoids</b>			<b>3.638</b>	<b>36.38</b>	
Total Potential THC			ND	ND	
Total Potential CBD			3.405	34.05	

### Final Approval



Ryan Weems  
14Jun2022  
12:07:00 PM MDT

PREPARED BY / DATE



Karen Winternheimer  
14Jun2022  
12:11:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/08cc1533-84b5-4a8e-80c5-f618bbdeb67b>

**Definitions**  
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Cert #4329.02

CDPHE Certified  
08cc153384b54a8e80c5f618bbdeb67b.1

### 900 Natural

Batch ID or Lot Number: 220614A, 220527F	Test: <b>Microbial Contaminants</b>	Reported: <b>27Jun2022</b>	USDA License: NA
Matrix: Finished Product	Test ID: T000211078	Started: 22Jun2022	Sampler ID: NA
	Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating)	Received: 21Jun2022	Status: NA

### Microbial Contaminants

Contaminants	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 <sup>0</sup> CFU/g	NA	Absent	Free from visual mold, mildew, and foreign matter
<i>Salmonella</i>	TM25: PCR	10 <sup>0</sup> CFU/g	NA	Absent	
Total Yeast and Mold*	TM24: Culture Plating	10 <sup>1</sup> CFU/g	1.0x10 <sup>2</sup> - 1.5x10 <sup>4</sup>	None Detected	
Total Aerobic Count*	TM26: Culture Plating	10 <sup>2</sup> CFU/g	1.0x10 <sup>3</sup> - 1.5x10 <sup>5</sup>	None Detected	
Total Coliforms*	TM27: Culture Plating	10 <sup>1</sup> CFU/g	1.0x10 <sup>2</sup> - 1.5x10 <sup>4</sup>	None Detected	

### Final Approval



Carly Bader  
25Jun2022  
12:50:00 PM MDT

PREPARED BY / DATE



Eden Thompson-Wright  
27Jun2022  
09:32:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/f833dab2-7a86-42a0-9d13-d17ec12a16cd>

#### Definitions

\* 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<sup>2</sup> = 100 CFU, 10<sup>3</sup> = 1,000 CFU, 10<sup>4</sup> = 10,000 CFU, 10<sup>5</sup> = 100,000 CFU  
 CFU/g = Colony Forming Units per Gram, LOD = Limit of Detection  
 ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation  
 STEC = Shiga Toxin-Producing E. coli

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### 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Mycotoxins</b>	Reported: <b>14Jun2022</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000209815	Started: 13Jun2022	Sampler ID: N/A
	Method(s): TM18 (UHPLC-QQQ LCMS/MS): Mycotoxins	Received: 10Jun2022	Status: Active

Mycotoxins	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	3.75 - 130.56	ND	N/A
Aflatoxin B1	1.02 - 32.57	ND	
Aflatoxin B2	1.05 - 32.35	ND	
Aflatoxin G1	0.99 - 32.70	ND	
Aflatoxin G2	1.05 - 32.66	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

### Final Approval



Jacob Miller  
 14Jun2022  
 02:49:00 PM MDT

PREPARED BY / DATE



Ryan Weems  
 14Jun2022  
 02:52:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/c59f3eb4-008d-41b3-a826-15b3a83185b3>

#### Definitions

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Cert #4329.02

CDPHE Certified  
 c59f3eb4008d41b3a82615b3a83185b3.1

### 900 mg 5G Broad Spectrum Tincture Bulk in EVOO

Batch ID or Lot Number: <b>BCA-000389-220607</b>	Test: <b>Residual Solvents</b>	Reported: <b>14Jun2022</b>	USDA License: N/A
Matrix: Concentrate	Test ID: T000209814	Started: 14Jun2022	Sampler ID: N/A
	Method(s): TM04 (GC-MS): Residual Solvents	Received: 10Jun2022	Status: Active

Residual Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	91 - 1825	ND	
Butanes (Isobutane, n-Butane)	139 - 2779	ND	
Methanol	57 - 1131	ND	
Pentane	81 - 1620	ND	
Ethanol	82 - 1640	ND	
Acetone	88 - 1752	ND	
Isopropyl Alcohol	93 - 1850	ND	
Hexane	6 - 114	ND	
Ethyl Acetate	91 - 1828	ND	
Benzene	0.2 - 3.7	ND	
Heptanes	89 - 1783	ND	
Toluene	17 - 332	ND	
Xylenes (m,p,o-Xylenes)	121 - 2428	ND	

### Final Approval



Jacob Miller  
 14Jun2022  
 05:51:00 PM MDT

PREPARED BY / DATE



Ryan Weems  
 14Jun2022  
 05:55:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/8bdc2347-eb59-41b2-b5b8-b052adf9cdbc>

**Definitions**  
 ND = None Detected (defined by dynamic range of the method)  
 Dynamic Range = Limit of Quantitation (LOQ) through Upper Limit of Method Range

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Cert #4329.02

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