



Product : Cannabidiol Oral Solution 1000 mg

Batch : TN22J2101C

### Certificate of Analysis

Product : Cannabidiol Oral Solution containing Cannabidiol Isolate

Target 1000 mg of CBD per oz (3.53% w/w) TN22J2101C

Batch : QA batch release review

Timeframe :

Test	Analyte	Acceptance Criteria	Results	Pass	Fail
Chemical	CBD	3% to 4%	3.53% (100% of target)	✓	
	THC	<0.3% w/w	<0.3% w/w	✓	
	THC-A	<0.3% w/w	Not detected	✓	
Microbiology	Total Aerobic Count	Not detected	Not detected	✓	
	Total Coliforms	Not detected	Not detected	✓	
	Total Yeast & Mold	Not detected	Not detected	✓	
	E. Coli (STEC)	Absent in 25 g	Absent	✓	
	Salmonella	Absent in 25 g	Absent	✓	
Pesticides	Targeted list	Not detected	Not tested*		
Heavy metals	Arsenic As	<1.5 ppm	Not tested*		
	Cadmium Cd	<0.5 ppm	Not tested*		
	Lead Pb	<0.5 ppm	Not tested*		
	Mercury Hg	<1.5 ppm	Not tested*		
Residual solvents	Acetone	<1000 ppm	Not tested*		
	Benzene	<2 ppm	Not tested*		
	Ethanol	<1000 ppm	Not tested*		
	Ethyl Acetate	<1000 ppm	Not tested*		
	Heptane	<1000 ppm	Not tested*		
	Hexane	<60 ppm	Not tested*		
	Isopropyl Alcohol	<1000 ppm	Not tested*		
	Methanol	<600 ppm	Not tested*		
	Pentane	<1000 ppm	Not tested*		
	Propane	<1000 ppm	Not tested*		
	Toluene	<180 ppm	Not tested*		
	Total Xylenes	<430 ppm	Not tested*		
Mycotoxins	Aflatoxins (B1, B2, G1, and G2)	<20	Not tested*		
	Aflatoxin B1	<5	Not tested*		
	Ochratoxin	<5	Not tested*		

\*Product free of contamination by addition

Batch is acceptable and released

Batch is not acceptable and will not be released

Approved by : 

Date : 22FEB23

Prepared for:

**PANACEA LIFE SCIENCES**
**Cannabidiol Oral Solution**

Batch ID or Lot Number: <b>TN22J2101C</b>	Test: <b>Potency</b>	Reported: <b>2/2/23</b>	Location: 16194 W 45th Drive Golden, CO 80403
--	-------------------------	----------------------------	---

Matrix: Concentrate	Test ID: T000186905	Started: 1/17/23	USDA License: N/A
------------------------	------------------------	---------------------	----------------------

Status: N/A	Method: TM14 (HPLC-DAD): Potency - Broad Spectrum Analysis, 0.01% THC (Colorado Panel)	Received: 01/11/2023 @ 02:51 PM	Sampler ID: N/A
----------------	---	------------------------------------	--------------------

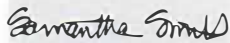
**CANNABINOID PROFILE**

Compound	LOD (%)	LOQ (%)	Result (%)	Result (mg/g)
Delta 9-Tetrahydrocannabinolic acid (THCA-A)	0.002	0.008	ND	ND
Delta 9-Tetrahydrocannabinol (Delta 9THC)	0.003	0.009	ND	ND
Cannabidiolic acid (CBDA)	0.051	0.161	ND	ND
Cannabidiol (CBD)	0.050	0.157	3.53	35.3
Delta 8-Tetrahydrocannabinol (Delta 8THC)	0.049	0.155	ND	ND
Cannabinolic Acid (CBNA)	0.028	0.089	ND	ND
Cannabinol (CBN)	0.013	0.041	ND	ND
Cannabigerolic acid (CBGA)	0.041	0.130	ND	ND
Cannabigerol (CBG)	0.010	0.031	ND	ND
Tetrahydrocannabivarinic Acid (THCVA)	0.035	0.110	ND	ND
Tetrahydrocannabivarin (THCV)	0.009	0.028	ND	ND
Cannabidivarinic Acid (CBDVA)	0.021	0.067	ND	ND
Cannabidivarin (CBDV)	0.012	0.037	ND	ND
Cannabichromenic Acid (CBCA)	0.016	0.050	ND	ND
Cannabichromene (CBC)	0.017	0.055	ND	ND
<b>Total Cannabinoids</b>			<b>3.53</b>	<b>35.3</b>
Total Potential THC**			0.016	0.16
Total Potential CBD**			3.53	35.3

**Notes**

 Amendment to T000186904  
 issued 18Jan2022 to correct  
 batch ID.


 Hannah Wright  
 02-Feb-2023  
 01:57 PM


 Sam Smith  
 2-Feb-23  
 2:22 PM

PREPARED BY / DATE

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.

$$\text{Total THC} = \text{THC} + (\text{THCA} \times \{0.877\})$$

$$\text{Total CBD} = \text{CBD} + (\text{CBDA} \times \{0.877\})$$

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

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

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.



Prepared for:

**PANACEA LIFE SCIENCES**

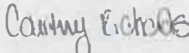
**Cannabidiol Oral Solution**

Batch ID or Lot Number: <b>TN22I2101C</b>	Test: <b>Microbial Contaminants</b>	Reported: <b>2/1/23</b>	Location: 16194 W 45th Drive Golden, CO 80403
Matrix: Finished Product	Test ID: T000186906	Started: 1/12/23	USDA License: N/A
Status: N/A	Methods: TM25 (qPCR) TM24, TM26, TM27(Culture Plating): Microbial (Colorado Panel)	Received: 01/11/2023 @ 02:51 PM	Sampler ID: N/A

**MICROBIAL CONTAMINANTS DETERMINATION**

Contaminant	Method	LOD	LLOQ	ULOQ	Result	Notes
<b>Total Aerobic Count*</b>	TM-26, Culture Plating	10 <sup>2</sup> CFU/g	10 <sup>3</sup> CFU/g	1.5x10 <sup>5</sup> CFU/g	None Detected	Free from visual mold, mildew, and foreign matter
<b>Total Coliforms*</b>	TM-27, Culture Plating	10 <sup>1</sup> CFU/g	10 <sup>2</sup> CFU/g	1.5x10 <sup>4</sup> CFU/g	None Detected	
<b>Total Yeast and Mold*</b>	TM-24, Culture Plating	10 <sup>1</sup> CFU/g	10 <sup>2</sup> CFU/g	1.5x10 <sup>4</sup> CFU/g	None Detected	
<b>E. coli (STEC)</b>	TM-25, PCR	1 CFU/25 g	NA	NA	Absent	Amendment to report T000186905 for batch ID correction. SCH01Feb2022
<b>Salmonella</b>	TM-25, PCR	1 CFU/25 g	NA	NA	Absent	

  
Sarah Henning  
2/1/2023  
12:13:00 PM

  
Courtney Richards  
2/1/2023  
1:40:00 PM

PREPARED BY / DATE

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<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

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.



CDPHE Certified



Certificate #4329.02

# CERTIFICATE OF ANALYSIS

Prepared for:  
**PANACEA LIFE SCIENCES**

16194 W 45th Drive  
Golden, CO USA 80403

## CBD Isolate

Batch ID or Lot Number: <b>8376</b>	Test: <b>Heavy Metals</b>	Reported: <b>28Mar2023</b>	USDA License: NA
Matrix: Concentrate Co	Test ID: T000199480	Started: 24Mar2023	Sampler ID: NA
	Method(s): TM19 (ICP-MS): Heavy Metals	Received: 23Mar2023	Status: NA

Heavy Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.26	ND	
Cadmium	0.04 - 4.31	ND	
Mercury	0.04 - 4.34	ND	
Lead	0.04 - 4.32	ND	

## Final Approval



Kayla Phye  
28Mar2023  
09:59:00 AM MDT

PREPARED BY / DATE



Ryan Weems  
28Mar2023  
10:02:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/9508febb-60ad-4ad1-845c-428400755137>

### Definitions

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

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 17025:2005 Accredited A2LA.



Cert #4329.02

CDPHE Certified

9508febb60ad4ad1845c428400755137.1