

Certificate of Analysis Cover Page

Twin Arbor Analytical

3990 Ruth Way Suite D
Paso Robles, CA 93446
(805) 369-2123



PREPARED FOR:

Cannabiva Medical
297 Kingsbury Grade, Suite 1183
Stateline, NV 89449

Report Date
Sample ID
Batch / Lot

4/5/2022
Zero High CBN Isolate
ZHBCBG-11392

Results

Analysis

Cannabinoids

CBN (%) **99.7 %**
Total THC **PASS**

Pesticides and Mycotoxins

Result **PASS**

Residual Solvents

Result **PASS**

Heavy Metals

Result **PASS**

Microbial

Result **PASS**

Terpenes

Page NT

Forrest Richmond
Laboratory Manager

NT = Not Tested

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Internal Sample ID

220317-200-3

Lab Batch ID

220322-2

Date of Analysis

3/22/2022

Analysis: Cannabinoids

Instrumentation: HPLC/DAD

Instrument ID: HPLC 1

Method: TM0002 (Twin Arbor Analytical Proprietary)

	LOD / LOQ (mg/g)	mg/g	% by weight
CBD	1.15 / 3.44	ND	ND
CBDA	1.07 / 3.2	ND	ND
Total CBD *		N/A	N/A
Δ 9-THC	1.07 / 3.2	ND	ND
THCA	1.07 / 3.2	ND	ND
Total THC *		N/A	N/A
CBG	1.07 / 3.2	ND	ND
CBGA	1.07 / 3.2	ND	ND
Total CBG *		N/A	N/A
CBC	1.07 / 3.2	ND	ND
CBDV	1.07 / 3.2	ND	ND
CBN	1.07 / 3.2	996.7	99.67
Δ 8-THC	1.07 / 3.2	ND	ND
THCV	1.07 / 3.2	ND	ND
Total Tested Cannabinoids		996.7	99.67

% by weight

ND, CBD

ND, CBDA

ND, Δ 9-THC

ND, THCA

ND, CBG

ND, CBGA

ND, CBC

ND, CBDV

 99.67, CBN

ND, Δ 8-THC

ND, THCV

Moisture Content: **NT**

ND = Not Detected

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* Totals account for decarboxilation of the acid and equal $XXX + (XXXA * 0.877)$

For example: Total THC = Δ 9-THC + (THCA * 0.877)

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220317-200-3

Lab Batch ID

220323-1

Date of Analysis

3/25/2022

Analysis: Pesticides and Mycotoxins

Instrumentation: LC-Mass Spectrometer

Intrument ID: LCMS 1

Method: TM0004 (Twin Arbor Analytical Proprietary)

Mycotoxins	Pass / Fail	Results (µg/g)	Action Limit (µg/g)	LOD / LOQ (µg/g)
Aflatoxin B1	Pass	ND	0.02	0.000 / 0.001
Aflatoxin B2	Pass	ND	0.02	0.001 / 0.004
Aflatoxin G1	Pass	ND	0.02	0.000 / 0.001
Aflatoxin G2	Pass	ND	0.02	0.001 / 0.004
Ochratoxin A	Pass	ND	0.02	0.004 / 0.013

Category I	Pass / Fail	Results (µg/g)	Action Limit (µg/g)	LOD / LOQ (µg/g)
Aldicarb	Pass	ND	ND	0.033 / 0.100
Carbofuran	Pass	ND	ND	0.033 / 0.100
Chlordane	Pass	ND	ND	0.100 / 0.300
Chlorfenapyr	Pass	ND	ND	0.033 / 0.100
Chlorpyrifos	Pass	ND	ND	0.033 / 0.100
Coumaphos	Pass	ND	ND	0.033 / 0.100
Daminozide	Pass	ND	ND	0.033 / 0.100
DDVP (Dichlorvos)	Pass	ND	ND	0.033 / 0.100
Dimethoate	Pass	ND	ND	0.033 / 0.100
Ethoprop(hos)	Pass	ND	ND	0.033 / 0.100
Etofenprox	Pass	ND	ND	0.033 / 0.100
Fenoxycarb	Pass	ND	ND	0.033 / 0.100
Fipronil	Pass	ND	ND	0.033 / 0.100
Imazalil	Pass	ND	ND	0.033 / 0.100
Methiocarb	Pass	ND	ND	0.033 / 0.100
Methyl parathion	Pass	ND	ND	0.033 / 0.100
Mevinphos	Pass	ND	ND	0.017 / 0.050
Paclobutrazol	Pass	ND	ND	0.033 / 0.100
Propoxur	Pass	ND	ND	0.033 / 0.100
Spiroxamine	Pass	ND	ND	0.033 / 0.100
Thiacloprid	Pass	ND	ND	0.033 / 0.100

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Analysis: Pesticides and Mycotoxins (continued)

Instrumentation: LC-Mass Spectrometer Instrument ID: LCMS 1 Method: TM0004 (Twin Arbor Analytical Proprietary)

Category II	Pass / Fail	Results (µg/g)	Action Limit (µg/g)	LOD / LOQ (µg/g)
Abamectin	Pass	ND	0.10	0.017 / 0.050
Acephate	Pass	ND	0.10	0.017 / 0.050
Acequinocyl	Pass	ND	0.10	0.017 / 0.050
Acetamiprid	Pass	ND	0.10	0.017 / 0.050
Azoxystrobin	Pass	ND	0.10	0.017 / 0.050
Bifenazate	Pass	ND	0.10	0.017 / 0.050
Bifenthrin	Pass	ND	3.00	0.017 / 0.050
Boscalid	Pass	ND	0.10	0.017 / 0.050
Captan	Pass	ND	0.70	0.033 / 0.100
Carbaryl	Pass	ND	0.50	0.017 / 0.050
Chlorantraniliprole	Pass	ND	10.00	0.017 / 0.050
Clofentezine	Pass	ND	0.10	0.017 / 0.050
Cyfluthrin	Pass	ND	2.00	0.033 / 0.100
Cypermethrin	Pass	ND	1.00	0.017 / 0.050
Diazinon	Pass	ND	0.10	0.017 / 0.050
Dimethomorph	Pass	ND	2.00	0.017 / 0.050
Etoxazole	Pass	ND	0.10	0.017 / 0.050
Fenhexamid	Pass	ND	0.10	0.017 / 0.050
Fenpyroximate	Pass	ND	0.10	0.017 / 0.050
Fonicamid	Pass	ND	0.10	0.017 / 0.050
Fludioxonil	Pass	ND	0.10	0.017 / 0.050
Hexythiazox	Pass	ND	0.10	0.017 / 0.050
Imidacloprid	Pass	ND	5.00	0.017 / 0.050
Kresoxim-methyl	Pass	ND	0.10	0.017 / 0.050
Malathion	Pass	ND	0.50	0.017 / 0.050
Metalaxyl	Pass	ND	2.00	0.017 / 0.050
Methomyl	Pass	ND	1.00	0.017 / 0.050
Myclobutanil	Pass	ND	0.10	0.017 / 0.050
Naled	Pass	ND	0.10	0.017 / 0.050
Oxamyl	Pass	ND	0.50	0.017 / 0.050
Pentachloronitrobenzene	Pass	ND	0.10	0.017 / 0.050
Permethrin	Pass	ND	0.50	0.017 / 0.050
Phosmet	Pass	ND	0.10	0.017 / 0.050
Piperonylbutoxide	Pass	ND	3.00	0.017 / 0.050
Prallethrin	Pass	ND	0.10	0.017 / 0.050
Propiconazole	Pass	ND	0.10	0.017 / 0.050
Pyrethrins	Pass	ND	0.50	0.017 / 0.050
Pyridaben	Pass	ND	0.10	0.017 / 0.050
Spinetoram	Pass	ND	0.10	0.017 / 0.050
Spinosad	Pass	ND	0.10	0.017 / 0.050
Spiromesifen	Pass	ND	0.10	0.017 / 0.050
Spirotetramat	Pass	ND	0.10	0.017 / 0.050
Tebuconazole	Pass	ND	0.10	0.017 / 0.050
Thiamethoxam	Pass	ND	5.00	0.017 / 0.050
Trifloxystrobin	Pass	ND	0.10	0.017 / 0.050

LOD = Limit of Detection
 LOQ = Limit of Quantification
 ND = Not Detected
 NT = Not Tested



Forrest Richmond
 Laboratory Manager

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220317-200-3

Lab Batch ID

220325-1

Date of Analysis

3/28/2022

Analysis: Residual Solvents

Instrumentation: GC-MS

Instrument ID: GCMS1

Method: TM0006 (Twin Arbor Analytical Proprietary)

	Pass / Fail	Results (µg/g)	Action Limit (µg/g)	LOQ (µg/g)
1,2-Dichloroethane	PASS	< LOQ	1.0	0.41
Benzene	PASS	< LOQ	1.0	0.42
Chloroform	PASS	< LOQ	1.0	0.41
Ethylene oxide	PASS	< LOQ	1.0	0.42
Methylene chloride	PASS	< LOQ	1.0	0.4
Trichloroethylene	PASS	< LOQ	1.0	0.43
Acetone	PASS	< LOQ	5000	59.2
Acetonitrile	PASS	< LOQ	410	60.92
Butane	PASS	< LOQ	5000	39.64
Ethanol	PASS	< LOQ	5000	59.54
Ethyl acetate	PASS	< LOQ	5000	59.96
Ethyl ether	PASS	< LOQ	5000	59.1
Heptane	PASS	247.232	5000	59.24
Hexane	PASS	< LOQ	290	59.28
Isopropyl alcohol	PASS	< LOQ	5000	59.3
Methanol	PASS	< LOQ	3000	59.3
Pentane	PASS	< LOQ	5000	59.56
Propane	PASS	< LOQ	5000	40
Toluene	PASS	< LOQ	890	59.3
Total xylenes (ortho-, meta-, para-)	PASS	< LOQ	2170	59.2



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220317-200-3

Lab Batch ID

220328-2

Date of Analysis

3/28/2022

Analysis: Heavy Metals

Instrumentation: ICP-MS

Intrument ID: ICPMS1

Method: TM0005 (Twin Arbor Analytical Proprietary)

	Pass / Fail	Results ($\mu\text{g/g}$)	Action Limit ($\mu\text{g/g}$)	LOQ ($\mu\text{g/g}$)
Arsenic	PASS	< LOQ	0.2	0.013
Cadmium	PASS	< LOQ	0.2	0.013
Lead	PASS	< LOQ	0.5	0.013
Mercury	PASS	< LOQ	0.1	0.013



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LOQ = Limit of Quantification

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220317-200-3

Lab Batch ID

220323-1 STEC

Lab Batch ID

220323-2 Salmonella

Date of Analysis

3/23/2022

Analysis: Microbial Impurities

Instrumentation: qPCR Instrument ID: qPCR2 Method: AOAC-RI 091301 (STEC) AOAC 081201 (Salmonella)

	Action Limit	Pass / Fail
STEC (Shiga-toxigenic E. coli)	ND	PASS
Salmonella sp.	ND	PASS
Pathogenic Aspergillus	ND	NT

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