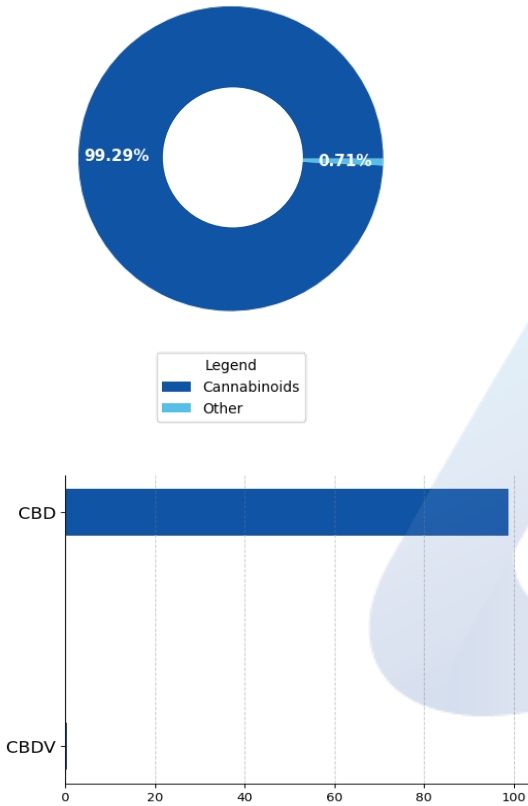


P-061622-30452

| | | | | | |
|---------------------|-----------------------|------------------|------------|-------------------|------------------------|
| Batch ID: | Hemp Republic Isolate | Received: | 06/20/2022 | Analysis: | 18 Cannabinoid Potency |
| Sample Type: | Isolate | Analyzed: | 06/23/2022 | Method: | 2021.18P.01 |
| | | Test ID: | 4189 | Equipment: | UHPLC |

CANNABINOID PROFILE
TOTAL CANNABINOID CONTENT


| Cannabinoid | LOD (%) | LOQ (%) | Result (%) | Result (mg/g) |
|------------------------------------|----------|----------|--------------------|---------------|
| Cannabidiol (CBD) | 4.29e-05 | 1.30e-04 | 98.85 ± 2.7 | 988.52 |
| Cannabigerol (CBG) | 4.11e-05 | 1.25e-04 | ND | ND |
| Δ9-Tetrahydrocannabinol (Δ9-THC) | 7.72e-05 | 2.34e-04 | ND | ND |
| Cannabicitran (CBT) | 3.95e-05 | 1.20e-04 | ND | ND |
| Cannabichromene (CBC) | 6.99e-05 | 2.12e-04 | ND | ND |
| Cannabinol (CBN) | 3.93e-05 | 1.19e-04 | ND | ND |
| Cannabicyclol (CBL) | 4.58e-05 | 1.39e-04 | ND | ND |
| Cannabicyclol acid (CBLA) | 4.00e-05 | 1.21e-04 | ND | ND |
| Tetrahydrocannavarin (THCV) | 4.04e-05 | 1.23e-04 | ND | ND |
| Δ8-Tetrahydrocannabinol (Δ8-THC) | 4.73e-05 | 1.43e-04 | ND | ND |
| Cannabinolic (CBNA) | 4.70e-05 | 1.42e-04 | ND | ND |
| Tetrahydrocannavarin Acid (THCVA) | 3.66e-05 | 1.11e-04 | ND | ND |
| Cannabigerolic acid (CBGA) | 3.98e-05 | 1.21e-04 | ND | ND |
| Cannabidiolic acid (CBDA) | 4.15e-05 | 1.26e-04 | ND | ND |
| Cannabidivarin (CBDV) | 3.97e-05 | 1.20e-04 | 0.44 ± 0.012 | 4.36 |
| Tetrahydrocannabinolic Acid (THCA) | 3.86e-05 | 1.17e-04 | ND | ND |
| Cannabichromenic acid (CBCA) | 3.99e-05 | 1.21e-04 | ND | ND |
| Cannabidivarinic Acid (CBDVA) | 3.99e-05 | 1.21e-04 | ND | ND |
| Total Cannabinoid** | | | 99.29 | 992.88 |
| Total Potential THC* | | | ND | ND |
| Total Potential CBD* | | | 98.85 ± 2.7 | 988.52 |
| Total Potential CBG* | | | ND | ND |

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

* Total THC = THC + (THCa *(0.877)) and Total CBD = CBD + (CBDA *(0.877)) and Total CBG = CBG + (CBGa*(0.877))

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

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

REMARKS

Passed visual inspection for particulates, mold, mildew, and other foreign substances.

FINAL AUTHORIZATION


 Alex Bujanow, Microbiologist
 06/23/2022 03:53 PM

ANALYZED BY/DATE


 Logan Cline, Director of Analytical Development
 06/24/2022 10:56 AM

AUTHORIZED BY/DATE


 John Reser, Quality Analyst
 06/24/2022 11:08 AM

RELEASED BY/DATE

Laboratory results are based on the sample submitted to Minova Laboratories in the condition it was received. Minova Laboratories warrants that all analyses performed are in accordance with ISO/IEC 17025:2017. All data is generated using NIST traceable reference material and all reports are produced with the highest regard for scientific integrity. Reports can only be reproduced with the written consent of Minova Laboratories.

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GLOBEX EXTRACTION SERVICES

1140 DENVER AVE
LOVELAND, CO USA 80537

FP-061622-HR

| | | | |
|--|-------------------------------------|-------------------------------|---------------------|
| Batch ID or Lot Number: Hemp Republic Full Panel | Test: Pesticides | Reported: 24Jun2022 | USDA License: NA |
| Matrix: Concentrate | Test ID: T000210893 | Started: 23Jun2022 | Sampler ID: NA |
| | Method(s): TM17 (LC-QQ LC MS/MS) | Received: 17Jun2022 | Status: NA |

| Pesticides | Dynamic Range (ppb) | Result (ppb) | Pesticides | Dynamic Range (ppb) | Result (ppb) |
|---------------------|---------------------|--------------|-----------------|---------------------|--------------|
| Abamectin | 316 - 2838 | ND | Malathion | 296 - 2707 | ND |
| Acephate | 40 - 2785 | ND | Metalaxyl | 43 - 2741 | ND |
| Acetamiprid | 39 - 2725 | ND | Methiocarb | 43 - 2693 | ND |
| Azoxystrobin | 42 - 2680 | ND | Methomyl | 39 - 2749 | ND |
| Bifenazate | 40 - 2671 | ND | MGK 264 1 | 158 - 1602 | ND |
| Boscalid | 40 - 2580 | ND | MGK 264 2 | 105 - 1130 | ND |
| Carbaryl | 40 - 2712 | ND | Myclobutanil | 43 - 2757 | ND |
| Carbofuran | 43 - 2700 | ND | Naled | 46 - 2722 | ND |
| Chlorantraniliprole | 45 - 2668 | ND | Oxamyl | 38 - 2759 | ND |
| Chlorpyrifos | 41 - 2808 | ND | Pacllobutrazol | 42 - 2727 | ND |
| Clofentezine | 283 - 2734 | ND | Permethrin | 286 - 2773 | ND |
| Diazinon | 286 - 2706 | ND | Phosmet | 44 - 2696 | ND |
| Dichlorvos | 278 - 2729 | ND | Prophos | 302 - 2707 | ND |
| Dimethoate | 39 - 2698 | ND | Propoxur | 42 - 2712 | ND |
| E-Fenpyroximate | 289 - 2691 | ND | Pyridaben | 288 - 2768 | ND |
| Etofenprox | 41 - 2747 | ND | Spinosad A | 35 - 2240 | ND |
| Etoxazole | 293 - 2728 | ND | Spinosad D | 50 - 497 | ND |
| Fenoxycarb | 40 - 2705 | ND | Spiromesifen | 271 - 2724 | ND |
| Fipronil | 39 - 2734 | ND | Spirotetramat | 295 - 2642 | ND |
| Fonicamid | 39 - 2675 | ND | Spiroxamine 1 | 19 - 1166 | ND |
| Fludioxonil | 297 - 2747 | ND | Spiroxamine 2 | 25 - 1538 | ND |
| Hexythiazox | 41 - 2704 | ND | Tebuconazole | 255 - 2678 | ND |
| Imazalil | 277 - 2769 | ND | Thiacloprid | 42 - 2677 | ND |
| Imidacloprid | 41 - 2656 | ND | Thiamethoxam | 41 - 2688 | ND |
| Kresoxim-methyl | 46 - 2712 | ND | Trifloxystrobin | 44 - 2716 | ND |

Final Approval


 Sam Smith
 24Jun2022
 11:54:00 AM MDT

PREPARED BY / DATE


 Daniel Weidensaul
 24Jun2022
 11:56:00 AM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/7d3f01e9-6a28-4ddc-9727-eaf431ee2c71>

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

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.



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Prepared for:
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 LOVELAND, CO USA 80537

FP-061622-HR

| | | | |
|--|---|-------------------------------|----------------------|
| Batch ID or Lot Number: Hemp Republic Full Panel | Test: Residual Solvents | Reported: 23Jun2022 | USDA License: N/A |
| Matrix: Concentrate | Test ID: T000210896 | Started: 23Jun2022 | Sampler ID: N/A |
| | Method(s): TM04 (GC-MS): Residual Solvents | Received: 17Jun2022 | Status: Active |

| Residual Solvents | Dynamic Range (ppm) | Result (ppm) | Notes |
|-------------------------------|---------------------|--------------|-------|
| Propane | 88 - 1761 | ND | |
| Butanes (Isobutane, n-Butane) | 137 - 2748 | ND | |
| Methanol | 51 - 1025 | ND | |
| Pentane | 75 - 1507 | ND | |
| Ethanol | 81 - 1619 | ND | |
| Acetone | 84 - 1689 | ND | |
| Isopropyl Alcohol | 86 - 1714 | ND | |
| Hexane | 5 - 104 | ND | |
| Ethyl Acetate | 86 - 1721 | ND | |
| Benzene | 0.2 - 3.7 | ND | |
| Heptanes | 88 - 1754 | ND | |
| Toluene | 16 - 319 | ND | |
| Xylenes (m,p,o-Xylenes) | 117 - 2344 | ND | |

Final Approval



Jacob Miller
 23Jun2022
 04:24:00 PM MDT

PREPARED BY / DATE



Sam Smith
 23Jun2022
 04:29:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/47901380-0741-49be-8113-7ba344e9580d>

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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Prepared for:
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| | | | |
|--|---|-------------------------------|---------------------|
| Batch ID or Lot Number: Hemp Republic Full Panel | Test: Heavy Metals | Reported: 28Jun2022 | USDA License: NA |
| Matrix: Concentrate | Test ID: T000210895 | Started: 27Jun2022 | Sampler ID: NA |
| | Method(s): TM19 (ICP-MS): Heavy Metals | Received: 17Jun2022 | Status: NA |

| Heavy Metals | Dynamic Range (ppm) | Result (ppm) | Notes |
|--------------|---------------------|--------------|-------|
| Arsenic | 0.08 - 7.90 | ND | |
| Cadmium | 0.08 - 7.87 | ND | |
| Mercury | 0.08 - 7.80 | ND | |
| Lead | 0.08 - 7.99 | ND | |

Final Approval



Daniel Weidensaul
 29Jun2022
 08:05:00 PM MDT

PREPARED BY / DATE



Courtney Richards
 29Jun2022
 09:10:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/ba33bc5c-2425-40af-89b8-905febffdb34>

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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Prepared for:

GLOBEX EXTRACTION SERVICES

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 LOVELAND, CO USA 80537

FP-061622-HR

| | | | |
|--|--|-------------------------------|---------------------|
| Batch ID or Lot Number: Hemp Republic Full Panel | Test: Microbial Contaminants | Reported: 28Jun2022 | USDA License: NA |
| Matrix: Concentrate | Test ID: T000210894 | Started: 21Jun2022 | Sampler ID: NA |
| | Method(s): TM25 (PCR) TM24, TM26, TM27 (Culture Plating) | Received: 17Jun2022 | Status: NA |

Microbial Contaminants

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

Final Approval


 Carly Bader
 24Jun2022
 10:17:00 AM MDT



 Brianne Maillot
 24Jun2022
 11:13:00 AM MDT


PREPARED BY / DATE

APPROVED BY / DATE

<https://results.botanacor.com/api/v1/coas/uuid/f38649dc-cb13-45dd-9f31-16f35cb13336>
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: 10² = 100 CFU, 10³ = 1,000 CFU, 10⁴ = 10,000 CFU, 10⁵ = 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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