

# CERTIFICATE OF ANALYSIS

Prepared for:  
**Pet Releaf**

8100 Southpark Way #A3  
Littleton, CO USA 80120

## Hip & Joint 300 mg

Batch ID or Lot Number: <b>0722FH303</b>	Test: <b>Potency</b>	Reported: <b>27Jul2022</b>	USDA License: N/A
Matrix: Solution	Test ID: T000215775	Started: 27Jul2022	Sampler ID: N/A
	Method(s): TM14 (HPLC-DAD): Potency – Standard Cannabinoid Analysis	Received: 27Jul2022	Status: Active

### Cannabinoids

	LOD (mg/mL)	LOQ (mg/mL)	Result (mg/mL)	Result (mg/g)	Notes
Cannabichromene (CBC)	0.063	0.175	0.574	0.61	Density = 0.94g/mL
Cannabichromenic Acid (CBCA)	0.058	0.160	ND	ND	
Cannabidiol (CBD)	0.184	0.462	10.305	10.96	
Cannabidiolic Acid (CBDA)	0.189	0.474	ND	ND	
Cannabidivarin (CBDV)	0.043	0.109	<LOQ	0.08	
Cannabidivarinic Acid (CBDVA)	0.079	0.198	ND	ND	
Cannabigerol (CBG)	0.036	0.099	0.214	0.23	
Cannabigerolic Acid (CBGA)	0.150	0.415	ND	ND	
Cannabinol (CBN)	0.047	0.129	ND	ND	
Cannabinolic Acid (CBNA)	0.103	0.283	ND	ND	
Delta 8-Tetrahydrocannabinol (Delta 8-THC)	0.179	0.494	ND	ND	
Delta 9-Tetrahydrocannabinol (Delta 9-THC)	0.163	0.449	0.278	0.30	
Delta 9-Tetrahydrocannabinolic Acid (THCA-A)	0.144	0.398	ND	ND	
Tetrahydrocannabivarin (THCV)	0.033	0.090	ND	ND	
Tetrahydrocannabivarinic Acid (THCVA)	0.127	0.351	ND	ND	
<b>Total Cannabinoids</b>			<b>11.446</b>	<b>12.18</b>	
Total Potential THC			0.278	0.30	
Total Potential CBD			10.305	10.96	

Approved: Paul Gennings QA/QC 7-27-22

### Final Approval



Jacob Miller  
27Jul2022  
04:30:00 PM MDT

PREPARED BY / DATE



Sam Smith  
27Jul2022  
04:33:00 PM MDT

APPROVED BY / DATE



<https://results.botanacor.com/api/v1/coas/uuid/e2954dd6-6c1d-40df-a2bd-f123d3a19ffe>

#### 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

CDPHE Certified  
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Prepared for:

**Pet Releaf**8100 Southpark Way #A3  
Littleton, CO USA 80120**Hip & Joint 300 mg**

Batch ID or Lot Number: <b>0722FH303</b>	Test, Test ID and Methods: Various	Matrix: Solution	Page 2 of 6
Reported: <b>14Jul2022</b>	Started: 14Jul2022	Received: 14Jul2022	

**Microbial  
Contaminants -  
Colorado Compliance**

Test ID: T000214152

Methods: TM25 (qPCR) TM24, TM26,  
TM27 (Culture Plating): Microbial  
(Colorado Panel)

	Method	LOD	Quantitation Range	Result	Notes
STEC	TM25: PCR	10 <sup>0</sup> CFU/25g	NA	Absent	Free from visual mold, mildew, and foreign matter
<i>Salmonella</i>	TM25: PCR	10 <sup>0</sup> CFU/25g	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**  
Brianne Maillot  
17Jul2022  
02:48:00 PM MDT

PREPARED BY / DATE



APPROVED BY / DATE

Brett Hudson  
18Jul2022  
09:48:00 AM MDT

Prepared for:  
**Pet Releaf**

8100 Southpark Way #A3  
Littleton, CO USA 80120

**Hip & Joint 300 mg**

Batch ID or Lot Number: <b>0722FH303</b>	Test, Test ID and Methods: Various	Matrix: Solution	Page 3 of 6
Reported: <b>14Jul2022</b>	Started: 14Jul2022	Received: 14Jul2022	


**Pesticides**


Test ID: T000214151

Methods: TM17

(LC-QQ LC MS/MS)	Dynamic Range (ppb)	Result (ppb)		Dynamic Range (ppb)	Result (ppb)	
Abamectin	207 - 2684	ND		Malathion	291 - 2735	ND
Acephate	41 - 2818	ND		Metalaxyl	45 - 2749	ND
Acetamiprid	41 - 2742	ND		Methiocarb	41 - 2805	ND
Azoxystrobin	43 - 2730	ND		Methomyl	40 - 2778	ND
Bifenazate	42 - 2729	ND		MGK 264 1	174 - 1615	ND
Boscalid	48 - 2829	ND		MGK 264 2	106 - 1155	ND
Carbaryl	40 - 2740	ND		Myclobutanil	14 - 2811	ND
Carbofuran	39 - 2736	ND		Naled	45 - 2776	ND
Chlorantraniliprole	45 - 2819	ND		Oxamyl	40 - 2744	ND
Chlorpyrifos	39 - 2730	ND		Paclobutrazol	42 - 2733	ND
Clofentezine	285 - 2736	ND		Permethrin	271 - 2736	ND
Diazinon	284 - 2760	ND		Phosmet	43 - 2747	ND
Dichlorvos	267 - 2755	ND		Prophos	298 - 2791	ND
Dimethoate	40 - 2725	ND		Propoxur	42 - 2728	ND
E-Fenpyroximate	286 - 2734	ND		Pyridaben	278 - 2696	ND
Etofenprox	42 - 2726	ND		Spinosad A	34 - 2262	ND
Etoxazole	282 - 2714	ND		Spinosad D	46 - 500	ND
Fenoxycarb	42 - 2741	ND		Spiromesifen	243 - 2742	ND
Fipronil	38 - 2747	ND		Spirotetramat	306 - 2720	ND
Flonicamid	51 - 2693	ND		Spiroxamine 1	18 - 1213	ND
Fludioxonil	304 - 2798	ND		Spiroxamine 2	25 - 1602	ND
Hexythiazox	41 - 2769	ND		Tebuconazole	297 - 2778	ND
Imazalil	276 - 2816	ND		Thiacloprid	41 - 2722	ND
Imidacloprid	46 - 2718	ND		Thiamethoxam	44 - 2766	ND
Kresoxim-methyl	46 - 2818	ND		Trifloxystrobin	44 - 2742	ND

**Final Approval**

  
 Daniel Weidensaul  
 18Jul2022  
 10:22:00 AM MDT  
 PREPARED BY / DATE

  
 Sam Smith  
 18Jul2022  
 10:25:00 AM MDT  
 APPROVED BY / DATE

Prepared for:

## Pet Releaf

8100 Southpark Way #A3  
Littleton, CO USA 80120

### Hip & Joint 300 mg

Batch ID or Lot Number: <b>0722FH303</b>	Test, Test ID and Methods: Various	Matrix: Solution	Page 4 of 6
Reported: <b>14Jul2022</b>	Started: 14Jul2022	Received: 14Jul2022	

### Heavy Metals - Colorado Compliance

Test ID: T000214153

Methods: TM19 (ICP-MS): Heavy

Metals	Dynamic Range (ppm)	Result (ppm)	Notes
Arsenic	0.04 - 4.26	ND	
Cadmium	0.05 - 4.53	ND	
Mercury	0.04 - 4.48	ND	
Lead	0.04 - 4.12	ND	

#### Final Approval



Colin Hendrickson  
19Jul2022  
12:26:00 PM MDT

PREPARED BY / DATE



Daniel Weidensaul  
19Jul2022  
12:28:00 PM MDT

APPROVED BY / DATE

Prepared for:

**Pet Relief**8100 Southpark Way #A3  
Littleton, CO USA 80120**Hip & Joint 300 mg**


Batch ID or Lot Number: <b>0722FH303</b>	Test, Test ID and Methods: Various	Matrix: Solution	Page 5 of 6
Reported: <b>14Jul2022</b>	Started: 14Jul2022	Received: 14Jul2022	

**Residual Solvents -  
Colorado Compliance**

Test ID: T000214154


Methods: TM04 (GC-MS): Residual

Solvents	Dynamic Range (ppm)	Result (ppm)	Notes
Propane	68 - 1362	ND	
Butanes (Isobutane, n-Butane)	143 - 2862	ND	
Methanol	61 - 1215	ND	
Pentane	86 - 1713	ND	
Ethanol	78 - 1561	ND	
Acetone	95 - 1896	ND	
Isopropyl Alcohol	109 - 2187	ND	
Hexane	7 - 134	ND	
Ethyl Acetate	117 - 2334	ND	
Benzene	0.2 - 3.7	ND	
Heptanes	89 - 1774	ND	
Toluene	18 - 360	ND	
Xylenes (m,p,o-Xylenes)	125 - 2504	ND	

**Final Approval**

Daniel Weidensaul  
19Jul2022  
05:26:00 PM MDT

PREPARED BY / DATE



Jacob Miller  
19Jul2022  
05:29:00 PM MDT

APPROVED BY / DATE

Prepared for:  
**Pet Relief**8100 Southpark Way #A3  
Littleton, CO USA 80120**Hip & Joint 300 mg**

Batch ID or Lot Number: <b>0722FH303</b>	Test, Test ID and Methods: Various	Matrix: Solution	Page 6 of 6
Reported: <b>14Jul2022</b>	Started: 14Jul2022	Received: 14Jul2022	

**Mycotoxins - Colorado Compliance**

Test ID: T000214155

Methods: TM18 (UHPLC-QQQ)

LCMS/MS: Mycotoxins	Dynamic Range (ppb)	Result (ppb)	Notes
Ochratoxin A	2.66 - 128.71	ND	N/A
Aflatoxin B1	0.90 - 32.43	ND	
Aflatoxin B2	0.96 - 32.74	ND	
Aflatoxin G1	0.99 - 32.68	ND	
Aflatoxin G2	1.08 - 32.99	ND	
Total Aflatoxins (B1, B2, G1, and G2)		ND	

**Final Approval**Jacob Miller  
21Jul2022  
12:12:00 PM MDT

PREPARED BY / DATE

Sam Smith  
21Jul2022  
12:15:00 PM MDT

APPROVED BY / DATE

Approved: Paul Gennings QA/QC 7-27-22

<https://results.botanacor.com/api/v1/coas/uuid/adeb5b5d-7bfb-4a62-9978-796d4b31df87>**Definitions**

LOD = Limit of Detection, ULOQ = Upper Limit of Quantitation, LLOQ = Lower Limit of Quantitation, PPB = Parts per Billion, % = % (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)). Fail equates to a concentration level of Delta 9-THC, on a dry weight basis, higher than 0.3 percent + or - the measurement uncertainty. Total Potential THC 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)). ALOQ = Above Limit Of Quantitation (defined by dynamic range of the method), CFU/g = Colony Forming Units per Gram. 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.

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