

PharmLabs San Diego Certificate of Analysis



3421 Hancock St, Second Floor, San Diego, CA 92110 | License: C8-0000098-LIC  
 ISO/IEC 17025:2017 Certification L17-427-1 | Accreditation #85368

Sample **Panama Punch 1g**

Sample ID <b>SD230804-056 (82208)</b>	Matrix <b>Flower (Inhalable Cannabis Good)</b>
Tested for <b>Kruz</b>	
Sampled <b>-</b>	Received <b>Aug 03, 2023</b>
Analyses executed <b>FP-IO20</b>	Reported <b>Aug 09, 2023</b>
	Unit Mass (g) <b>1.0</b>

**Laboratory note:** The estimated concentration of the unknown peak in the sample is 1.43% | Currently PharmLabs laboratory can not confirm an unidentified peak in your chromatogram due to interference (only with highly concentrated D8 products) from which we believe to be either (+)-8-THC or d9-THC. At this time there are no reference standards available for (+)-8-THC. (+)-8-THC is a different compound from the main (-)-8-THC cannabinoid and, therefore, these two compounds may have different efficacies. Using the most advanced instruments and techniques available, the separation of (+)-8-THC and d9-THC is problematic for the scientific community as a whole. PharmLabs believes the unidentified peak to be a combination of (+)-8-THC and d9-THC with the majority, if not all, of the concentration being (+)-8-THC. Total (+)-8-THC Concentration is estimated to be: 9.62%

**CANX - Cannabinoids Analysis**

Analyzed **Aug 07, 2023** | Instrument **HPLC-VWD** | Method  
 The expanded Uncertainty of the Cannabinoid analysis is approximately **±.81%** at the 95% Confidence Level

Analyte	LOD mg/g	LOQ mg/g	Result %	Result mg/g	Result mg/Unit
11-Hydroxy-Δ8-Tetrahydrocannabinol (11-Hyd-Δ8-THCV)	0.015	0.041	ND	ND	ND
Cannabidiol (CBD)	0.002	0.007	ND	ND	ND
Abnormal Cannabidiol (a-CBD)	0.01	0.031	ND	ND	ND
(+/-)-9B-Hydroxy-Hexahydrocannabinol (9b-HHC)	0.012	0.036	ND	ND	ND
11-Hydroxy-Δ8-Tetrahydrocannabinol (11-Hyd-Δ8-THC)	0.007	0.021	ND	ND	ND
Cannabidiolic Acid (CBDA)	0.001	0.16	<b>6.43</b>	<b>64.30</b>	<b>64.30</b>
Cannabigerol Acid (CBGA)	0.001	0.16	<b>1.52</b>	<b>15.25</b>	<b>15.25</b>
Cannabigerol (CBG)	0.001	0.16	<b>0.20</b>	<b>1.95</b>	<b>1.95</b>
Cannabidiol (CBD)	0.001	0.16	<b>1.03</b>	<b>10.31</b>	<b>10.31</b>
1(S)-THD (s-THD)	0.013	0.041	ND	ND	ND
1(R)-THD (r-THD)	0.025	0.075	ND	ND	ND
Tetrahydrocannabinol (THCV)	0.001	0.16	ND	ND	ND
Δ8-tetrahydrocannabinol (Δ8-THCV)	0.021	0.064	ND	ND	ND
Cannabidihexol (CBDH)	0.005	0.16	ND	ND	ND
Tetrahydrocannabinol (Δ9-THCB)	0.013	0.038	ND	ND	ND
Cannabinol (CBN)	0.001	0.16	ND	ND	ND
Cannabidiphorol (CBDP)	0.015	0.047	ND	ND	ND
exo-THC (exo-THC)	0.005	0.16	ND	ND	ND
Tetrahydrocannabinol (Δ9-THC)	0.003	0.16	UI	UI	UI
Δ8-tetrahydrocannabinol (Δ8-THC)	0.004	0.16	<b>9.62</b>	<b>96.20</b>	<b>96.20</b>
(6aR,9S)-Δ10-Tetrahydrocannabinol ((6aR,9S)-Δ10)	0.015	0.16	ND	ND	ND
Hexahydrocannabinol (S Isomer) (9s-HHC)	0.017	0.16	<b>0.39</b>	<b>3.90</b>	<b>3.90</b>
(6aR,9R)-Δ10-Tetrahydrocannabinol ((6aR,9R)-Δ10)	0.007	0.16	ND	ND	ND
Hexahydrocannabinol (R Isomer) (9r-HHC)	0.016	0.16	<b>0.64</b>	<b>6.43</b>	<b>6.43</b>
Tetrahydrocannabinolic Acid (THCA)	0.001	0.16	<b>18.53</b>	<b>185.33</b>	<b>185.33</b>
Δ9-Tetrahydrocannabinol (Δ9-THCH)	0.024	0.071	ND	ND	ND
Cannabinol Acetate (CBNO)	0.014	0.043	ND	ND	ND
Δ9-Tetrahydrocannabinol (Δ9-THCP)	0.017	0.16	ND	ND	ND
Δ8-Tetrahydrocannabinol (Δ8-THCP)	0.041	0.16	ND	ND	ND
Cannabicitran (CBT)	0.005	0.16	ND	ND	ND
Δ8-THC-O-acetate (Δ8-THCO)	0.076	0.16	ND	ND	ND
9(S)-HHCP (s-HHCP)	0.031	0.094	ND	ND	ND
Δ9-THC-O-acetate (Δ9-THCO)	0.066	0.16	ND	ND	ND
9(R)-HHCP (r-HHCP)	0.026	0.079	ND	ND	ND
9(S)-HHC-O-acetate (s-HHCO)	0.005	0.16	ND	ND	ND
9(R)-HHC-O-acetate (r-HHCO)	0.008	0.025	ND	ND	ND
3-octyl-Δ8-Tetrahydrocannabinol (Δ8-THC-C8)	0.067	0.204	ND	ND	ND
<b>Total THC ( THCa * 0.877 + Δ9THC )</b>			<b>16.25</b>	<b>162.53</b>	<b>162.53</b>
<b>Total THC + Δ8THC + Δ10THC ( THCa * 0.877 + Δ9THC + Δ8THC + Δ10THC )</b>			<b>25.87</b>	<b>258.73</b>	<b>258.73</b>
<b>Total CBD ( CBDA * 0.877 + CBD )</b>			<b>6.67</b>	<b>66.70</b>	<b>66.70</b>
<b>Total CBG ( CBGA * 0.877 + CBG )</b>			<b>1.53</b>	<b>15.32</b>	<b>15.32</b>
<b>Total HHC ( 9r-HHC + 9s-HHC )</b>			<b>1.03</b>	<b>10.33</b>	<b>10.33</b>
<b>Total Cannabinoids</b>			<b>35.11</b>	<b>351.09</b>	<b>351.09</b>

Sample photography



\*Dry Weight %

**HME - Heavy Metals Analysis**

Analyzed **Aug 07, 2023** | Instrument **ICP/MSMS** | Method **SOP-005**

Analyte	LOD ug/g	LOQ ug/g	Result ug/g	Limit ug/g
Arsenic (As)	0.0002	0.0005	<b>0.18</b>	1.5
Cadmium (Cd)	3.0e-05	0.0005	<b>0.12</b>	0.5
Mercury (Hg)	1.0e-05	0.0001	<b>0.00</b>	3
Lead (Pb)	1.0e-05	0.00125	<b>0.17</b>	0.5
Nickel (Ni)	0.0006	0.0019	<b>ND</b>	

UI Unidentified  
 ND Not Detected  
 N/A Not Applicable  
 NT Not Reported  
 LOD Limit of Detection  
 LOQ Limit of Quantification  
 <LOQ Detected  
 >LOL Above upper limit of linearity  
 CFU/g Colony Forming Units per 1 gram  
 TNTC Too Numerous to Count



Scan the QR code to verify authenticity.

Authorized Signature

*Brandon Starr*

Brandon Starr, Lab Manager  
 Wed, 09 Aug 2023 15:27:07 -0700

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MIBIG - Microbial Analysis

Analyzed Aug 07, 2023 | Instrument qPCR and/or Plating | Method SOP-007

Analyte	Result CFU/g	Limit	Analyte	Result CFU/g	Limit
Shiga toxin-producing Escherichia Coli	Negative	ND per 1 gram	Salmonella spp.	ND	ND per 1 gram
Aspergillus fumigatus	Negative	ND per 1 gram	Aspergillus flavus	Negative	ND per 1 gram
Aspergillus niger	Negative	ND per 1 gram	Aspergillus terreus	Negative	ND per 1 gram

MTO - Mycotoxin Analysis

Analyzed Aug 09, 2023 | Instrument LC/MSMS | Method SOP-004

Analyte	LOD ug/kg	LOQ ug/kg	Result ug/kg (ppb)	Limit ug/kg	Analyte	LOD ug/kg	LOQ ug/kg	Result ug/kg (ppb)	Limit ug/kg
Ochratoxin A	5.0	20.0	ND	20	Aflatoxin B1	2.5	5.0	ND	-
Aflatoxin B2	2.5	5.0	ND	-	Aflatoxin G1	2.5	5.0	ND	-
Aflatoxin G2	2.5	5.0	ND	-	Total Aflatoxins	10.0	20.0	ND	20

UI Unidentified  
 ND Not Detected  
 N/A Not Applicable  
 NT Not Reported  
 LOD Limit of Detection  
 LOQ Limit of Quantification  
 <LOQ Detected  
 >ULOL Above upper limit of linearity  
 CFU/g Colony Forming Units per 1 gram  
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PES - Pesticides Analysis

Analyzed Aug 09, 2023 | Instrument LC/MSMS GC/MSMS | Method SOP-003

Analyte	LOD ug/g	LOQ ug/g	Result ug/g	Limit ug/g	Analyte	LOD ug/g	LOQ ug/g	Result ug/g	Limit ug/g
Aldicarb	0.0078	0.02	ND	0.0078	Carbofuran	0.01	0.02	ND	0.01
Dimethoate	0.01	0.02	ND	0.01	Etofenprox	0.02	0.1	ND	0.02
Fenoxycarb	0.01	0.02	ND	0.01	Thiachloprid	0.01	0.02	ND	0.01
Daminozide	0.01	0.03	ND	0.01	Dichlorvos	0.02	0.07	ND	0.02
Imazail	0.02	0.07	ND	0.02	Methiocarb	0.01	0.02	ND	0.01
Spiroxamine	0.01	0.02	ND	0.01	Coumaphos	0.01	0.02	ND	0.01
Fipronil	0.01	0.1	ND	0.01	Paclbutrazol	0.01	0.03	ND	0.01
Chlorpyrifos	0.01	0.04	ND	0.01	Ethoprophos (Prophos)	0.01	0.02	ND	0.01
Baygon (Propoxur)	0.01	0.02	ND	0.01	Chlordane	0.04	0.1	ND	0.04
Chlorfenapyr	0.03	0.1	ND	0.03	Methyl Parathion	0.02	0.1	ND	0.02
Mevinphos	0.05	0.08	ND	0.03	Abamectin	0.03	0.08	ND	0.1
Acephate	0.02	0.05	ND	0.1	Acetamidrid	0.01	0.05	ND	0.1
Azoxystrobin	0.01	0.02	ND	0.1	Bifenazate	0.01	0.05	ND	0.1
Bifenthrin	0.02	0.35	ND	3	Boscalid	0.01	0.03	ND	0.1
Carbaryl	0.01	0.02	ND	0.5	Chlorantraniliprole	0.01	0.04	ND	10
Clofentezine	0.01	0.03	ND	0.1	Diazinon	0.01	0.02	ND	0.1
Dimethomorph	0.02	0.06	ND	2	Etoxazole	0.01	0.05	ND	0.1
Fenpyroximate	0.02	0.1	ND	0.1	Fonicamid	0.01	0.02	ND	0.1
Fludioxonil	0.01	0.05	ND	0.1	Hexythiazox	0.01	0.03	ND	0.1
Imidacloprid	0.01	0.05	ND	5	Kresoxim-methyl	0.01	0.03	ND	0.1
Malathion	0.01	0.05	ND	0.5	Metalaxyl	0.01	0.02	ND	2
Methomyl	0.02	0.05	ND	1	Myclobutanil	0.02	0.07	ND	0.1
Naled	0.01	0.02	ND	0.1	Oxamyl	0.01	0.02	ND	0.5
Permethrin	0.01	0.02	ND	0.5	Phosmet	0.01	0.02	ND	0.1
Piperonyl Butoxide	0.02	0.06	ND	3	Propiconazole	0.03	0.08	ND	0.1
Prallethrin	0.02	0.05	ND	0.1	Pyrethrin	0.05	0.41	ND	0.5
Pyridaben	0.02	0.07	ND	0.1	Spinosad A	0.01	0.05	ND	0.1
Spinosad D	0.01	0.05	ND	0.1	Spiromesifen	0.02	0.06	ND	0.1
Spirotetramat	0.01	0.02	ND	0.1	Tebuconazole	0.01	0.02	ND	0.1
Thiamethoxam	0.01	0.02	ND	5	Trifloxystrobin	0.01	0.02	ND	0.1
Acequinocyl	0.02	0.09	ND	0.1	Captan	0.01	0.02	ND	0.7
Cypermethrin	0.02	0.1	ND	1	Cyfluthrin	0.04	0.1	ND	2
Fenhexamid	0.02	0.07	ND	0.1	Spinetoram J.L	0.02	0.07	ND	0.1
Pentachloronitrobenzene	0.01	0.1	ND	0.1					

RES - Residual Solvents Analysis

Analyzed Aug 09, 2023 | Instrument GC/FID with Headspace Analyzer | Method SOP-006

Analyte	LOD ug/g	LOQ ug/g	Result ug/g	Limit ug/g	Analyte	LOD ug/g	LOQ ug/g	Result ug/g	Limit ug/g
Propane (Prop)	0.4	40.0	ND		Butane (But)	0.4	40.0	ND	
Methanol (Metha)	0.4	40.0	ND		Ethylene Oxide (EthOx)	0.4	0.8	ND	
Pentane (Pen)	0.4	40.0	ND		Ethanol (Ethanol)	0.4	40.0	ND	
Ethyl Ether (EthEt)	0.4	40.0	ND		Acetone (Acet)	0.4	40.0	ND	
Isopropanol (2-Pro)	0.4	40.0	ND		Acetonitrile (Acetonit)	0.4	40.0	ND	
Methylene Chloride (MetCh)	0.4	0.8	ND		Hexane (Hex)	0.4	40.0	ND	
Ethyl Acetate (EthAc)	0.4	40.0	ND		Chloroform (Clo)	0.4	0.8	ND	
Benzene (Ben)	0.4	0.8	ND		1,2-Dichloroethane (12-Dich)	0.4	0.8	ND	
Heptane (Hep)	0.4	40.0	ND		Trichloroethylene (TriClEtH)	0.4	0.8	ND	
Toluene (Toluene)	0.4	40.0	ND		Xylenes (Xyl)	0.4	40.0	ND	

FVI - Filth & Foreign Material Inspection Analysis

Analyzed Aug 04, 2023 | Instrument Microscope | Method SOP-010

Analyte / Limit	Result	Analyte / Limit	Result
> 1/4 of the total sample area covered by sand, soil, cinders, or dirt	ND	> 1/4 of the total sample area covered by mold	ND
> 1 insect fragment, 1 hair, or 1 count mammalian excreta per 3g	ND	> 1/4 of the total sample area covered by an imbedded foreign material	ND

MWA - Moisture Content & Water Activity Analysis

Analyzed Aug 04, 2023 | Instrument Chilled-mirror Dewpoint and Capacitance | Method SOP-008

Analyte	Result	Limit	Analyte	Result	Limit
Moisture (Moi)	7.4 % Mw	13 % Mw	Water Activity (WA)	0.52 a <sub>w</sub>	0.85 a <sub>w</sub>

UJ Unidentified  
 ND Not Detected  
 N/A Not Applicable  
 NT Not Reported  
 LOD Limit of Detection  
 LOQ Limit of Quantification  
 <LOQ Detected  
 >ULOL Above upper limit of linearity  
 CFU/g Colony Forming Units per 1 gram  
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