PERRY JOHNSON LABORATORY ACCREDITATION, INC.

Certificate of Accreditation

Perry Johnson Laboratory Accreditation, Inc. has assessed the Laboratory of:

Murray Brown Laboratories

11455 Pearl St. Northglenn, CO. 80233

(Hereinafter called the Organization) and hereby declares that Organization is accredited in accordance with the recognized International Standard:

ISO/IEC 17025:2017

This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system
(as outlined by the joint ISO-ILAC-IAF Communiqué dated April 2017):

Biological & Chemical Testing

(As detailed in the supplement)

Accreditation claims for such testing and/or calibration services shall only be made from addresses referenced within this certificate. This Accreditation is granted subject to the system rules governing the Accreditation referred to above, and the Organization hereby covenants with the Accreditation body's duty to observe and comply with the said rules.

For PJLA:

Tracy Szerszen
President

Perry Johnson Laboratory Accreditation, Inc. (PJLA)
755 W. Big Beaver, Suite 1325
Troy, Michigan 48084

Initial Accreditation Date:	*Issue Date:*	*Expiration Date:*
July 03, 2012	September 11, 2022	October 31, 2024

Accreditation No.:	*Certificate No.:*
72716	L22-603

The validity of this certificate is maintained through ongoing assessments based on a continuous accreditation cycle. The validity of this certificate should be confirmed through the PJLA website: www.pjlabs.com

Certificate of Accreditation: Supplement

Murray Brown Laboratories
11455 Pearl St. Northglenn, CO. 80233
Contact Name: Mrs. Brenda Brown Phone: 303-296-0264

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Biological	Food, Nutritional, Supplements, Aqueous, Environmental Samples	E. coli O157:H7 [F]	AOAC RI 031002 BAX® PCR AOAC RI 102003 BAX® PCR EXACT	Qualitative Analysis Detection Limit (D.L.) is 1 viable cell per sample aliquot enriched. Results are either Positive/Negative
			AOAC RI 121805 GENE-UP® PCR	
		Salmonella spp. [F]	AOAC RI 081201 BAX® PCR AOAC OM 2013.02 BAX® PCR	
			AOAC RI 121802 GENE-UP® PCR	
		Shiga Toxin-producing Escherichia coli (STEC) (E. coli O26, E. coli O45, E. coli O103, E. coli O111, E. coli O121, E. coli O145) [F]	AOAC RI 091301 BAX® PCR	
			AOAC RI 121806 GENE-UP® PCR	
		Listeria spp. [F]	AOAC RI 081401 BAX® PCR	
			AOAC RI 121803 GENE-UP® PCR	
		Listeria monocytogenes [F]	AOAC RI 121402 BAX® PCR	
			AOAC RI 121804 GENE-UP® PCR	
		Aerobic Plate Count [F]	AOAC OM 990.12 Petrifilm™	Quantitative Analyses Liquids: D.L. = 1 CFU/mL Solids: D.L. = 10 CFU/g Swabs: D.L. = 10 CFU/swab
			AOAC OM 2015.13 Petrifilm™	
		Coliform Bacteria [F]	AOAC OM 991.14 Petrifilm™ AOAC OM 998.08 Petrifilm™ AOAC OM 2000.15 Petrifilm™	
		Escherichia coli [F]	AOAC OM 991.14 Petrifilm™ AOAC OM 998.08 Petrifilm™ AOAC OM 2000.15 Petrifilm™	
		Enterobacteriaceae [F]	AOAC OM 2003.01 Petrifilm™	
		Lactic Acid Bacteria [F]	AOAC RI 041701 Petrifilm™	
		Staphylococcus aureus [F]	AOAC OM 2003.07 Petrifilm™ AOAC OM 2003.11 Petrifilm™	
		Yeast and Mold [F]	AOAC RI 121301 Petrifilm™	
	Drinking Water	Total Coliforms, E. coli[F]	Colisure®	Positive/Negative D.L. = 1 viable cell per 100 mL

Certificate of Accreditation: Supplement

Murray Brown Laboratories
11455 Pearl St. Northglenn, CO. 80233
Contact Name: Mrs. Brenda Brown Phone: 303-296-0264

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical	Food, Nutritional, Supplements, Aqueous, Environmental Samples	Ash [F]	Muffle Furnace [C.005] REF: AOAC OM 923.03 AOAC OM 920.153	0.1 % w/w to 100 % w/w
		Caffeine [F]	HPLC [C.009] REF: AOAC OM 980.14 IS 16028: 2012	0.05 % to 100 %
		Cannabinoids [F3]	HPLC [C.012]	0.001 % w/w to 100 % w/w
		Cholesterol [F]	GC-FID [C.008] REF: AOAC OM 994.10	0.02 mg/g to 1 000 mg/g
		Fat, Crude [F]	Soxtec™ [C.001] REF: AOAC 991.36	0.5 % w/w to 100 % w/w
		Fat, Total [F]	Acid Hydrolysis [C.002] REF: AOAC OM 992.06 AOAC OM 935.38	1.0 % w/w to 100 % w/w
		Fatty Acid Profile [F]	GC-FID [C.010] REF: AOAC OM 996.01 AOAC OM 996.06	0.01 % w/w to 100 % w/w
		Free Fatty Acid [F]	Titration [C.TIT-006] REF: AOAC OM 940.25	0.35 mg KOH/g to 20 mg KOH/g
		Karl Fischer Moisture [F]	Titration [C.TIT.008] REF: AOAC OM 977.10	100 ppm to 50 000 ppm
		Minerals [F]: Ca, Cu, Fe, Mg, Mn, P, K, Na, Zn	ICP-MS [C.007] REF: AOAC OM 2015.01 AOAC OM 2015.06 USP 232, USP 233	0.80 ppm to 500 000 ppm
		Metals [F]: As, Cd, Pb, Hg, Se		0.005 ppm to 50 000 ppm
		Moisture, Total [F]	Convection Oven [C.003] REF: AOAC 950.46	0.1 % to 100 %
		pH [FO]	Meter [A.001] REF: AOAC OM 973.41 AOAC OM 981.12 USDA/FSIS MGL Ch. 2 APHA SMEDP 15.022	0 pH to 14 pH
		Protein, Total [F]	Combustion Method [C.004] REF: AOAC OM 992.15	0.25 % to 100 %
		Residual solvents [F5]	Heated Headspace GCMS [C.016]	2 ppm to 5 000 ppm
		Salt [F]	Titration [C.TIT.001] REF: AOAC 935.47	0.1 % to 100 %
		Specific Gravity [F]	Density Meter [C.011] REF: ASTM D4062	0.2 to 2.0
		Sugars [F]	HPLC [C.013] REF: AOAC OM 984.17	0.5 % to 100 %

Certificate of Accreditation: Supplement

Murray Brown Laboratories
11455 Pearl St. Northglenn, CO. 80233
Contact Name: Mrs. Brenda Brown Phone: 303-296-0264

Accreditation is granted to the facility to perform the following testing:

FIELD OF TEST	ITEMS, MATERIALS OR PRODUCTS TESTED	SPECIFIC TESTS OR PROPERTIES MEASURED	SPECIFICATION, STANDARD METHOD OR TECHNIQUE USED	RANGE (WHERE APPROPRIATE) AND DETECTION LIMIT
Chemical	Food, Nutritional, Supplements, Aqueous, Environmental Samples	Titratable Acidity [F]	Titration [C.TIT.002] REF: AOAC OM 920.92 AOAC OM 962.12	0.1 g/100 mL to 5 g/100 mL Tartaric Acid
		TTPCs [F]	Titration [C.TIT.005]	0.2 % to 100 %
		Water Activity [F]	AquaLab Meter [A.002] REF: AOAC OM 978.18	0.030 a_w to 1.000 a_w
	Food Products	Ascorbic Acid – Vitamin C [F]	HPLC [C.VIT.002] REF: AOAC 2012.21 + Agilent Application Note – Analysis of ascorbic acid, citric acid, and benzoic acid in orange juice	1 mg/100 g to 400 mg/100 g
		Cholecalciferol – Vitamin D3[F]	UPLC-MS/MS [C.VIT.003] REF: AOAC 2011.11	1 µg/100 g to 500 µg/100 g
		Peroxide Value[F]	Titration [C.TIT.007] REF: AOAC OM 983.23, AOAC OM 965.33	> 1 mEq/kg
		Retinol Palmitate and Retinol Acetate – Vitamin A [F]	HPLC [C.VIT.001] REF: AOAC 2012.10	0.1 mg/100 g to 20 mg/100 g
	Plant Material/Raw Materials	Pesticides[F4]	UPLC-MS/MS [C.014] REF: Agilent Application Note – Determination of Pesticides and Mycotoxins	10 ng/g to 20 000 ng/g
	Plant Material/Extracts	Kratom Alkaloids[F:] Mitragynine 7-Hydroxymitragynine Isorhynchophylline, Mitragynine, Mitraphylline, Paynantheine, Speciociliatine, and Speciogynine	HPLC [C.017] REF: AOAC OM 2017.14 - Modified	0.1 % to 100 %
	Hand Sanitizer/ Beverages	Ethanol/Methanol/ [F] 1-Propanol[F]	GC-FID [C.018] REF: AOAC 984.14, USP <611> - Modified	0.01 % to 100 %
	Food, Plant Material, CBD Products	Mycotoxins [F:] Aflatoxin B1, B2, G1, G2, Ochratoxin A	UPLC-MS/MS [C.014]	10 ppb to 10 000 ppb

Certificate of Accreditation: Supplement

Murray Brown Laboratories
11455 Pearl St. Northglenn, CO. 80233
Contact Name: Mrs. Brenda Brown Phone: 303-296-0264

Accreditation is granted to the facility to perform the following testing:

1. The presence of a superscript F means that the laboratory performs testing of the indicated parameter at its fixed location. Example: Total Fat ^{F} would mean that the laboratory performs this testing at its fixed location.
2. The presence of a superscript FO means that the laboratory performs testing of the indicated parameter both at its fixed location and onsite at customer locations. Example: pH ^{FO} would mean that the laboratory performs this testing at its fixed location and onsite at customer locations.
3. Cannabinoids: Cannabichromene (CBC), Cannabicitran (CBT), Cannabidiol (CBD), Cannabidiolic Acid (CBDA), Cannabidivarin (CBDV), Cannabigerol (CBG), Cannabinol (CBN), Delta - 9 THC (THC), Delta 9 - Tetrahydrocannabinolic Acid (THCA-A), Potential CBD, Potential THC, Tetrahydrocannabivarin (THCV)
4. Pesticides: Abamectin (B1a + B1b), Acephate, Acequinocyl, Acetamiprid, Aldicarb, Azoxystrobin, Bifenazate, Bifenthrin, Boscalid, Carbaryl, Carbofuran, Chlorantraniliprole, Chlorfenapyr, Chlorpyrifos, Cinerin (I, II), Clofentezine, Coumaphos, Cyfluthrin (Baythroid), Cypermethrin, Daminozide, Diazinon, Dibrom (Naled), Dichlorvos, Dimethoate, Dimethomorph (I, II), Ethofenprox, Ethoprophos (Prophos), Etoxazole, Fenhexamid, Fenoxycarb, Fenpyroximate, Fipronil, Flonicamid, Fludioxonil, Hexythiazox, Imazalil, Imidacloprid, Jasmolin (I, II), Kresoxim Methyl, Malathion, Metalaxyl, Methiocarb, Methomyl, Oxamyl, Paclobutrazol, Permethrin, Phosdrin (Mevinphos), Phosmet, Piperonyl Butoxide, Prallethrin, Propiconazol, Propoxur, Pyrethrin (I, II), Pyridaben, Spinetoram (J, L), Spinosad (A, D), Spiromesifen, Spirotetramat, Spiroxamine, Systhane (Myclobutanil), Tebuconazol (Folicur), Thiacloprid, Thiamethoxam, Trifloxystrobin
5. Residual Solvents: 1,2-Dichloroethane, 2-Propanol, Acetone, Acetonitrile, Benzene, Chloroform, Cyclohexane, Diethyl ether, Ethanol, Ethyl Acetate, Heptane, Hexane, Methanol, Methylene chloride, N,N-Dimethylformamide, Pentane, Toluene, Tricholorethene, Xylenes (p-, m-, o-)