



SCOPE OF ACCREDITATION TO ISO/IEC 17025:2005

COVANCE LABORATORIES INC.
3301 Kinsman Boulevard
Madison, WI 53704-2523
David Fall Phone: 608-395-3727

CHEMICAL

Valid to: October 31, 2013

Certificate Number: 2918.01

In recognition of the successful completion of the A2LA evaluation process (including an assessment of the laboratory's compliance with the A2LA Food Testing Program Requirements, containing the "AOAC *International Guidelines for Laboratories Performing Microbiological and Chemical Analyses of Food and Pharmaceuticals*"), accreditation is granted to this laboratory to perform the following tests on food and dietary supplements:

<u>Method Procedure</u>	<u>Test and Technology</u>	<u>References</u>
MP-ASHM-MA	Ash	AOAC 923.03
MP-CFAT-MA MP-CALC-MA	Calories and Calories from Fat	Code of Federal Regulations, Title 21, Part 101.9, pp. 24-25
MP-CHO-MA	Carbohydrates pp 2-11 (1973)	United States Department of Agriculture, "Energy Value of Foods," Agriculture Handbook No. 74,
MP-CL-SALT-MA	Chloride/Salt	AOAC: 963.05, 971.27, 986.26
MP-CHOK-MA	Cholesterol	AOAC 994.10
MP-M100_T100-MA MP-M70_KLLL-MA MP-M70_T70-MA MP-M60_T60-MA	Moisture, Vacuum Oven	AOAC: 925.09, 926.08 AOAC 934.06 AOAC 934.06 AOAC 925.45
MP-MUDA-MA	Moisture, Convection Oven	AOAC 950.46
MP-PVFF-MA	Peroxide Value	AOAC 983.23; AOCS Cd 8-53; USP <401>

<u>Method Procedure</u>	<u>Test and Technology</u>	<u>References</u>
MP-PHAL-MA	pH	AOAC 981.12; USP <791> Food Chemical Codex 7 th Ed., Appendix II, The United States Pharmacopeia Convention (2010)
MP-KTAC-MA	Titratable Acidity	Client Supplied Method
MP-WACT-MA	Water Activity by Chilled-Mirror Dew Point	AOAC 987.18
MP-DGEN-MA	Protein, Combustion	AOAC: 968.06, 992.15
MP-PGEN-MA	Protein, Kjeldahl	AOAC: 955.04, 979.09; AOCS Ac 4-91
MP-ISDF-MA	Fiber, Soluble, Insoluble, Total Dietary (Lee)	AOAC 991.43
MP-TDF-MA	Fiber, Total Dietary (Prosky)	AOAC 985.29
MP-SFLC-MA	Fibersol by HPLC	AOAC 2001.03
MP-SUGN-MA MP-SUGT-MA	Sugar by GC	Mason, B. S., and Stover, H. T., "A Gas Chromatographic Method for the Determination of Sugars in Foods," Journal of Agriculture and Food Chemistry, 19(3):551-554 (1971) Brobst, K. M., "Gas-Liquid Chromatography of Trimethylsilyl Derivatives", Methods in Carbohydrate Chemistry, 6:3-8, Academic Press, New York, NY (1972)
MP-SGLC-MA	Sugar by HPLC	AOAC 982.14
MP-SUGX-MA	Sugar Alcohols by HPAEC	Dionex Technical Note 20. Analysis of Carbohydrates by High Performance Anion Exchange Chromatography with Pulsed Amperometric Detection (HPEAD-PAD) Cataldi, T.R.I.; Campa, C.; Casella, I.G.; Bufo, S.A., "Determination of Maltitol, Isomaltitol, and Lactitol by High-pH Anion-Exchange Chromatography with Pulsed Amperometric Detection.", Journal of Agriculture and Food Chemistry, 47:157-163 (1999)
MP-KRST-MA	Resistant Starch	AOAC 2002.02

<u>Method Procedure</u>	<u>Test and Technology</u>	<u>References</u>
MP-FOSR-MA	Fructooligosaccharides by HPAEC with PAD	AOAC 997.08
MP-BCAN-MA	Beta Glucan	AOAC 995.16 Determination of beta-D-Glucan in Barley and Oats by Streamlines Enzymatic Method, Journal of AOAC International 80:580 (1997)
MP-FATSXTEC-MA	Fat	Client Supplied Method
MP-FAAH-MA	Total Fat by Acid Hydrolysis	AOAC: 922.06, 954.02
MP-FPT-MA MP-KKTS-MA	Fatty Acid Profile, Trans	AOAC 996.06; AOCS: Ce 1h-05 and Ce 2-66
MP-ANID-MA	P-Anisidine Value	AOCS Cd 18-90; USP <401>
MP-VALC-MA	Vitamin A (Retinol) by HPLC	AOAC: 2001.13, 992.04, 992.06
MP-BCLC-MA	Carotenes (alpha, beta, lycopene)	AOAC 2005.07 Quackenbush, F. W., "Reverse Phase HPLC Separation of cis- and trans-Carotenoids and it's Application to Beta Carotenes in Food Materials," Journal of Liquid Chromatography, 10:643-653 (1987)
MP-BIDE-MA	Thiamin (B ₁)	AOAC 942.23, 953.17, 957.17
MP-B2FV-MA	Riboflavin (B ₂)	AOAC 940.33 The United States Pharmacopeia, 29 th Ed., p. 1913, United States Pharmacopeial Convention, Inc., Rockville, Maryland (2005)
MP-NIAP-MA	Niacin (B ₃)	AOAC 944.13
MP-PANN-MA	Pantothenic Acid (B ₅)	AOAC 945.74

<u>Method Procedure</u>	<u>Test and Technology</u>	<u>References</u>
MP-B6A-MA	Pyridoxine Hydrochloride	AOAC 961.15 Atkins, L. Schultz, A.S., Williams, W.L. and Frey, C.N., "Yeast Microbiological Methods for Determination of Vitamins," Industrial and Engineering Chemistry, Analytical Edition, 15:141- 144 (1943)
MP-BIOM-MA	Biotin	Scheiner, J. and DeRitter, "Biotin Content of Feedstuffs, : Journal of Agricultural Food Chemistry, 23(6):1157-1162 (1975) Wright and Skeggs, Procedures of the Society of Experimental Biology and Medicine, 56:95 (1944) Methods of Analysis for Infant Formulas, Infant Formula Council, Atlanta, GA, Section C-2 (1985) Journal of the AOAC 49:882 (1966)
MP-FOAN-MA MP-FOAP-MA	Folic Acid	AOAC: 992.05 (Low Level), 944.12 (High Level) Methods of Analysis for Infant Formulas, Infant Formula Council, Atlanta, GA, Section C-2 (1985)
MP-B12F-MA	Vitamin B ₁₂	AOAC 952.20 United States Pharmacopeia, 29 th Ed., pp. 603-604, United States Pharmacopeial Convention, Inc.: Rockville, Maryland (2005) Methods of Analysis for Infant Formulas, Infant Formula Council, Atlanta, GA, Section C-2 (1985)
MP-VCF-MA	Vitamin C by Fluorescence	AOAC 967.22
MP-VCLC-MA	Vitamin C by HPLC	AOAC 967.22 Asami, D. K., Journal of Agriculture and Food Chemistry 51:1237-1241 (2003).



<u>Method Procedure</u>	<u>Test and Technology</u>	<u>References</u>
MP-CALL-MA	Vitamin C and Erythorbic	HPLC-UV Determination of Total Vitamin C in a Acid by HPLC Wide Range of Fortified Food Products, Food Chemistry, 94:626-631 (2006). “Simultaneous Determination of Ascorbic Acid and Dehydroascorbic Acid by HPLC with Postcolumn Derivatization and Fluorometric Detection, Fresenius”, Journal of Analytical Chemistry, 342:426-466 (1992)
MP-VDMS-MA	Vitamin D by LCMS	Journal of AOAC International 92(5):1327-1335 (2009) Journal of AOAC International 94(1):211-223 (2011)
MP-LCAT-MA	Vitamin E by HPLC	Covance Developed Method
MP-ICPL-MA	Ca, Cu, Fe, K, Mg, Mn, Na, P, and Zn by ICP	AOAC: 984.27, 985.01
MP-MS1-MA	Lead by ICP-MS	AOAC 993.14
MP-TAALC-MA	Amino Acids by HPLC	R. Shuster, “Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC”, Journal of Chromatography, 431: 271-284 (1988) Henderson, J.W.M Ricker, R.D., Bidlingmeyer, B.A, Woodward, C., “Rapid, Accurate, Sensitive and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis Using Zorbax Eclipse-AAA columns and the Agilent 1100 HPLC,” Agilent Publication, (2000) Barkholt and Jensen, “Amino Acid Analysis: Determination of Cystine plus Half-Cystine in Proteins after Hydrochloric Acid A Hydrolysis with a Disulfide Compound as Additive”, Analytical Biochemistry, 177:318-322 (1989)

Method Procedure

Test and Technology

References

MP-TPLC-MA

Amino Acid: Total
Tryptophan By HPLC

AOAC 988.15

R. Shuster, "Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC", Journal of Chromatography, 431: 271-284 (1988)

Henderson, J.W.M Ricker, R.D., Bidlingmeyer, B.A, Woodward, C., "Rapid, Accurate, Sensitive and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis Using Zorbax Eclipse-AAA Columns and the Agilent 1100 HPLC," Agilent Publication, (2000)

MP-TBHQ-MA
MP-TBHQ_OIL-MA

TBHQ by HPLC

AOAC 983.15

The EFSA Journal "Opinion of the Scientific Panel on Food Additives, Flavourings, Processing Aids, and Materials in Contact with Food on a request from the Commission related to TBHQ Question Number EFSAQ-2003-125, 84:1-50 (Adopted on 12 July 2004)

MP-BHAL-MA

BHA, BHT and TBHQ
by GC

AOAC 968.17

Note: All methods modified