

Title: Pantothenic Acid (Vitamin B5), 90 Capsules	
Allergy Research Group® / NutriCology®	
Document No.: 70380CA	Revision: 012

Certificate of Analysis

Part Number	70380		
Lot Number	00410		
Product Count & Form	90 Vegetarian Capsules		
Packaging, Closure	225 cc bottle, desiccant, rayon/cotton		
Storage Condition	Room Temperature		
Shelf Life	24 months	Expiration Date	03/2022
Label Number, Size	70380L, H		
Retain Sample	1 bottles per label (2 bottles total)		

ANALYSIS

Physical

Attribute	Method / SOP	Specification	Test Result
Product Color, Size	SOP 515	White, Clear size "0"	Complies
Weight variation	SOP 514	Meet USP <2091> 620 mg - 800 mg	Passes, 693 mg
Disintegration Time	SOP 522	Meet USP <2040>	Passes, 17:50 min

Purity/Strength per Capsule

Active Ingredients per capsule	Label Claim per capsule	Release Limits	Test Result
Pantothenic Acid (as Calcium Pantothenate)	500 mg	100-150% LC by HPLC	535.9 mg
Calcium (as Calcium Pantothenate)	42 mg	100-150% LC by ICP-OES	45.8 mg
Other Ingredients			
Hydroxypropyl Methyl cellulose, L-Leucine			

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Identification \ Chemical \ Heavy Metals

Attribute	Method / SOP	Specification	Test Result
Identity	Bulk Certificate of Analysis Review	Approved	Approved
Identity	Near Infrared Spectroscopy	Matches Reference	Complies
Arsenic (inorganic)	ICP-MS per USP <2232>	≤ 15 mcg/day Ψ	0.116 mcg/day
Cadmium	ICP-MS per USP <2232>	≤ 5 mcg/day Ψ	0.046 mcg/day
Mercury (total)	ICP-MS per USP <2232>	≤ 15 mcg/day Ψ	BQL
Lead	ICP-MS per USP <2232>	≤ 10 mcg/day Ψ	0.044 mcg/day

Ψ – Permitted Daily Exposure, BQL; below quantitation limit

Microbiology

Attribute	Method / SOP	Specification	Test Result
Total Aerobic Count	USP/ AOAC/ FDA BAM	≤ 1 x 10 ³ CFU/g	160 CFU/g
Total Yeast & Mold	USP/ AOAC/ FDA BAM	≤ 1 x 10 ² CFU/g	< 10 CFU/g
Coliform	USP/ AOAC/ FDA BAM	≤ 1 x 10 ² CFU/g	<10 CFU/g
Escherichia coli	USP/ AOAC/ FDA BAM	None Detected	None Detected
Staphylococcus aureus	USP/ AOAC/ FDA BAM	None Detected	None Detected
Salmonella	USP/ AOAC/ FDA BAM	None Detected	None Detected

Approval: 	Digitally signed by Kimberly Vennebush Date: 2020.05.03 20:39:41 -06'00'	Date: 03MAY2020
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If you liked our service, please tell a friend. If you didn't, please tell us!

Test Certificate

Description: Pantothenic Acid
Sample ID: 40380/ 00410
Lot No:
Location:
Received: 3/24/2020
Completed: 3/31/2020

Client: Allergy Research Group
2300 N Loop Rd.
Alameda, CA 94502

Lab No: 191888-01

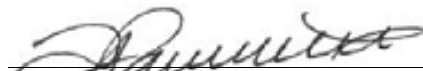
Analysis	Result	Per Unit	Specifications	Method
Total Aerobic Microbial Count	160	CFU/g	<= 10,000 CFU/g	USP <2021>
Coliform	<10	CFU/g	<= 1,000 CFU/g	AOAC 991.14
E.Coli	Absent	per 10 grams	Absent	USP <2022>
Staphylococcus aureus	Absent	per 10 grams	Absent	USP <2022>
Salmonella	Absent	per 10 grams	Absent	USP <2022>
Total Yeast & Mold	<10	CFU/g	<= 1,000 CFU/g	USP <2021>
Yeast *	<10	CFU/g	<= 1,000 CFU/g	
Mold *	<10	CFU/g	<= 1,000 CFU/g	

* For informational purposes only.

THESE RESULTS APPLY ONLY TO THE SAMPLE SUBMITTED AND NOT TO THE PRODUCT FROM WHICH IT WAS TAKEN. THESE RESULTS ARE PROVIDED ONLY FOR THE BENEFIT OF CLIENT, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT FOR THE EXPRESS LIMITED WARRANTY PROVIDED SOLELY TO CLIENT IN ADVANCED LABORATORIES' TERMS OF SERVICE.

THIS CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL FROM ADVANCED LABORATORIES.

Results Approved By:


Alisa Farnsworth-Quality Technician

Dated:

3/31/2020

Printed: 3/31/2020 4:01:17 PM



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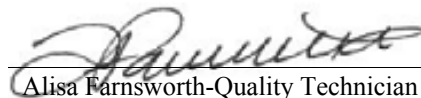
Analysis	Result	Per Unit	Specifications	Method
Calcium	45.8	mg/cap	>= 42 mg/cap	ICP-OES USP <730>
Mercury	< 0.001	mcg/g	<= 0.5 mcg/g	ICP-MS USP <730>
Lead	0.021	mcg/g	<= 0.5 mcg/g	ICP-MS USP <730>
Arsenic	0.056	mcg/g	<= 0.5 mcg/g	ICP-MS USP <730>
Cadmium	0.022	mcg/g	<= 0.5 mcg/g	ICP-MS USP <730>
† Pantothenic Acid	535.9	mg/cap	>= 500 mg/cap	HPLC

Vitamin B5 (Pantothenic Acid) analysis performed using HPLC by method adapted from Chu, K.O. and Tin, K.C., "Analysis of Commercial Multi-Vitamin Preparation by HPLC with Diode Array Detector," as published in Analytical Letters, Vol.31, No.15, pp.2707- 2715, 1998; utilizing sample dissolved in 5mM-potassium dihydrogen phosphate and 5% aqueous acetonitrile adjusted to pH 5.6 (A) with sonication and analyzed on an Alltech Alltima C18 5 µm column (25 cm*4.6 mm i.d.) with gradient elution (1 ml/min) using A and 5mM-potassium dihydrogen phosphate and 50% aqueous acetonitrile adjusted to pH 5.6 (B) from 100% A (0-18 min) to 50% A 50% B (18-30 min, then maintained constant from 30-40 min) to 100% B (40-41 min, then maintained constant from 41-50 min) with diode array detection. Authentic chemical reference material obtained from Sigma-Aldrich.

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Results Approved By:


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Dated:

3/31/2020

Tests marked with † were done at Atlas Bioscience Labs, LLC, a joint venture with Advanced Laboratories. -
1775 S. Pantano Rd - Ste #110, Tucson, AZ 85710

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