## Title: NAC Enhanced Antioxidant Formula 90 tablets

Allergy Research Group<sup>®</sup> / NutriCology<sup>®</sup> Document No.: 75960CA

Revision: 008

## **Certificate of Analysis**

Part Number	75960				
Lot Number	1219143	1219143			
Product Count & Form	90 tablets				
Packaging, Closure	225 cc bottle, desiccant, rayon/cotton				
Storage Condition	Room Temperature				
Shelf Life	24 months Expiration Date 03/22				
Label Number, Size	75960L, D				
Retain Sample	1 bottle unopened				

#### ANALYSIS

Physical			
Attribute	Method / SOP	Specification	Test Result
Product Color, Size	SOP 515	White/Beige, T3 Tablet	Complies
Product Weight	SOP 514	Meet USP <2091> 1200 - 1500 mg	Passes, 1304 mg
Disintegration Time	SOP 522	Meet USP <2040>	Passes*
Disintegration Time		Wieet USP <2040>	Passes*

\*Production and Process Control

#### **Purity/Strength per Tablet**

Active Ingredients	Label Claim	<b>Release Limits</b>	Test Result			
N-Acetyl-L-Cysteine	200 mg	100-150% LC by HPLC	215.4 mg			
Trimethylglycine	300 mg	100-150% LC by HPLC	318.4 mg			
Ribonucleic Acid	120 mg	100-150% LC by HPLC	100-150% LC by HPLC*			
Alpha-Lipoic Acid	100 mg	100-150% LC by HPLC	100-150% LC by HPLC*			
Other Ingredients						
Calcium Carbonate, Microcrystalline cellulose, Magnesium Stearate, Silicon Dioxide,						
Stearic Acid, Croscarmellose Sodium, Ethyl Vanillin						

\*Production and Process Control

## Title: NAC Enhanced Antioxidant Formula 90 tablets

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Attribute	Method / SOP	Specification	Test Result
Identity	Bulk Certificate of Analysis Review	Approved	Approved
Identity	Near Infrared Spectroscopy	Matches Reference	Matches Reference
Arsenic (inorganic)	ICP-MS per USP <2232>	$\leq$ 15 mcg/day $\Psi$	0.598 mcg/day
Cadmium	ICP-MS per USP <2232>	$\leq$ 5 mcg/day $\Psi$	0.217 mcg/day
Mercury (total)	ICP-MS per USP <2232>	$\leq$ 15 mcg/day $\Psi$	0.011 mcg/day
Lead	ICP-MS per USP <2232>	$\leq$ 10 mcg/day $\Psi$	0.238 mcg/day

#### Identification \ Chemical \ Heavy Metals

\*Production and Process Control,  $\Psi$  – Permitted Daily Exposure, BQL – Below Quantitative Level

#### Microbiology

Attribute	Method / SOP	Specification	<b>Test Result</b>
Total Aerobic Count	USP/ AOAC/ FDA BAM	$\leq 1 \ge 10^3 \text{ CFU/g}$	<10 CFU/g
Total Yeast & Mold	USP/ AOAC/ FDA BAM	$\leq 1 \ge 10^2 \text{ CFU/g}$	<10 CFU/g
Coliform	USP/ AOAC/ FDA BAM	$\leq 1 \ge 10^2 \text{ CFU/g}$	<10 CFU/g
Escherichi coli	USP/ AOAC/ FDA BAM	None Detected	None Detected
Staphylcoccus aureus	USP/ AOAC/ FDA BAM	None Detected	None Detected
Salmonella	USP/ AOAC/ FDA BAM	None Detected	None Detected
*D 1 (* 1D	O + 1		

\*Production and Process Control

Approval:	Date: 09JUL2020
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40 West Louise Ave., Salt Lake City, UT 84115 Phone: (801) 485-1800 Fax: (801) 484-9211 Email: utlab@advancedlabsinc.com FDA Registration #14353128308

## **Test Certificate**

Description: Sample ID:	NAC Enhanced Antioxidant 85960/1219143
Lot No:	
Location:	
Received:	4/10/2020
Completed:	4/17/2020

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

Lab No: 193359-01

Analysis	Result	Per Unit	Specifications	Method
Total Aerobic Microbial Count	<10	CFU/g	<= 1,000 CFU/g	USP <2021>
Coliform	<10	CFU/g	<= 100 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	<= 100 CFU/g	USP <2021>
Yeast *	<10	CFU/g	<= 100 CFU/g	USP <2021>
Mold *	<10	CFU/g	<= 100 CFU/g	USP <2021>

\* 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:** 

**Dated:** 4/17/2020

Kristina Nolff-Quality Technician

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40 West Louise Ave., Salt Lake City, UT 84115 Phone: (801) 485-1800 Fax: (801) 484-9211 Email: utlab@advancedlabsinc.com FDA Registration #14353128308

# **Test Certificate**

Description: Sample ID:	NAC Enhanced Antioxidant 85960/1219143
Lot No:	00,00,121,11,5
Location:	4/10/2020
Received:	4/10/2020
Completed:	4/17/2020

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

Lab No: 193361-01

Analysis	Result	Per Unit	Specifications	Method
† Betaine	318.4	mg/tab	> 300 mg/tab	HPLC
Mercury	0.004	ppm	< 0.5 ppm	ICP-MS USP <730>
Lead	0.090	ppm	< 0.5 ppm	ICP-MS USP <730>
Arsenic	0.226	ppm	< 0.5 ppm	ICP-MS USP <730>
Cadmium	0.082	ppm	< 0.5 ppm	ICP-MS USP <730>
†N-Acetyl L-Cysteine	215.4	mg/tab	> 200 mg/tab	HPLC

Betaine (trimethylglycine) analysis performed using HPLC following derivatization utilizing sample derivatized with p-bromophenacyl bromide in the presence of 18-crown-6 followed by separation on a Waters Extera C18 column (150x3.5mm), 40°C, with 20mM Potassium phosphate, pH3.0/Acetonitrile (95:5) 1.5ml/min, detection by scanning photo diode array (200-400nm) with signal extraction at 260 nm.

N-Acetyl L-Cysteine analysis performed using HPLC following derivatization utilizing sample derivatized with p-bromophenacyl bromide in the presence of 18-crown-6 followed by separation on a Waters Extera C18 column (150x3.5mm), 40°C, with 20mM Potassium phosphate, pH3.0/Acetonitrile (95:5) 1.5ml/min, detection by scanning photo diode array (200-400nm) with signal extraction at 260 nm.

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**Results Approved By:** 

4/17/2020 Dated:

Kristina Nolff-Quality Technician

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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