

| | |
|--|---------------|
| Title: N-Acetyl-L-Cysteine, 120 Tablets | |
| Allergy Research Group® / NutriCology® | |
| Document No.: 71370CA | Revision: 009 |

Certificate of Analysis

| | | | |
|---------------------------------|--------------------------------------|-----------------|---------|
| Part Number | 71370 | | |
| Lot Number | 20944 | | |
| Product Count & Form | 120 Tablets | | |
| Packaging, Closure | 175 cc bottle, desiccant, rayon | | |
| Storage Condition | Room Temperature | | |
| Shelf Life | 24 months | Expiration Date | 03/2022 |
| Label Number, Size | 71370L, F | | |
| Retain Sample | 1 bottle per label (2 bottles total) | | |

ANALYSIS

Physical

| Attribute | Method / SOP | Specification | Test Result |
|--------------------------|--------------|----------------------------------|-------------|
| Product Color, Size | SOP 515 | White, T-2 tablet | Complies |
| Product Weight Variation | SOP 514 | Meets USP <2091> 975 -1200 mg | Pass* |
| Disintegration Time | SOP 522 | Meet USP <2040> | Pass* |

*See Country Life Certificate of Analysis

Purity/Strength per Tablet

| Active Ingredients | Label Claim | Release Limits | Test Result |
|-------------------------|-------------|--------------------------|-----------------|
| N-Acetyl-L-Cysteine USP | 500 mg | 100 - 150% of LC by HPLC | 562.1 mg/tablet |

* Production and Process control

Identification \ Chemical \ Heavy Metals

| 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> | ≤ 15 mcg/day Ψ | 0.058 mcg/day |
| Cadmium | ICP-MS per USP <2232> | ≤ 5 mcg/day Ψ | 0.356 mcg/day |
| Mercury (total) | ICP-MS per USP <2232> | ≤ 15 mcg/day Ψ | 0.014 mcg/day |
| Lead | ICP-MS per USP <2232> | ≤ 10 mcg/day Ψ | 0.187 mcg/day |



* Production and Process control, Ψ – Permitted Daily Exposure

| | |
|--|---------------|
| Title: N-Acetyl-L-Cysteine, 120 Tablets | |
| Allergy Research Group® / NutriCology® | |
| Document No.: 71370CA | Revision: 009 |

Microbiology

| Attribute | Method / SOP | Specification | Test Result |
|-----------------------|--------------------|----------------------------|---------------|
| Total Aerobic Count | USP/ AOAC/ FDA BAM | $\leq 1 \times 10^3$ CFU/g | < 10 CFU/g |
| Total Yeast & Mold | USP/ AOAC/ FDA BAM | $\leq 1 \times 10^2$ CFU/g | < 10 CFU/g |
| Coliform | USP/ AOAC/ FDA BAM | $\leq 1 \times 10^2$ 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 |

* Production and Process control

| | | |
|---|---|-----------------|
| Approval:  |  Digitally signed by Kimberly Vennebush Date: 2020.06.02 15:47:49 -06'00' | Date: 02JUN2020 |
|---|---|-----------------|

If you liked our service, please tell a friend. If you didn't, please tell us!

Test Certificate

Description: N-Acetyl-L Cysteine
Sample ID: 41370
Lot No: 20C944
Location:
Received: 4/24/2020
Completed: 4/30/2020Client: Allergy Research Group
2300 S Main St
Salt Lake City, UT 84115

Lab No: 194504-01

| 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:


Kristina Noll - Quality Technician

Dated:

4/30/2020

Printed: 4/30/2020 12:24:49 PM



If you liked our service, please tell a friend. If you didn't, please tell us!

Test Certificate

Description: N-Acetyl-L Cysteine
Sample ID: 41370
Lot No: 20C944
Location:
Received: 4/28/2020
Completed: 5/4/2020

Client: Allergy Research Group
2300 S Main St
Salt Lake City, UT 84115

Lab No: 194506-01

| Analysis | Result | Per Unit | Specifications | Method |
|-----------------------|--------|-------------|--------------------|--------------------------------------|
| Inorganic Arsenic | 0.016 | µg / g | < 0.5 µg / g | ICP-MS USP <730> Modified Prep |
| Mercury | 0.004 | µg / g | < 0.5 µg / g | ICP-MS USP <730> |
| Lead | 0.052 | µg / g | < 0.5 µg / g | ICP-MS USP <730> |
| Cadmium | 0.099 | µg / g | < 0.5 µg / g | ICP-MS USP <730> |
| † N-Acetyl L-Cysteine | 562.1 | mg / tablet | >= 500 mg / tablet | HPLC |

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.

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:



Kristina Noll - Quality Technician

Dated:

5/4/2020

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

Printed: 5/4/2020 5:41:43 PM

