| Title: **DHEA 50 mg, scored 60 Tablets** | |
|---|---|
| Allergy Research Group® / NutriCology® | |
| Document No.: 72660CA | Revision: 007 |

# Certificate of Analysis

| | | | |
|---|---|---|---|
| **Part Number** | 72660 | | |
| **Lot Number** | 10151 | | |
| **Product Count & Form** | 60 scored tablets | | |
| **Packaging, Closure** | 60 cc bottle, desiccant, rayon/cotton | | |
| **Storage Condition** | Cool, dry place | | |
| **Shelf Life** | 24 months | Expiration Date | 10/20 |
| **Label Number, Size** | 72660L, M | | |
| **Retain Sample** | 2 bottles per label (4 bottles total) | | |

## ANALYSIS

**Physical**

| Attribute | Method / SOP | Specification | Test Result |
|---|---|---|---|
| Product Color, Size | SOP 515 | White, oblong, scored T1 tablet (stamped DHEA / 50) | Complies |
| Product Weight variation | SOP 514 | Meets USP <2091> 290 - 410 mg range | Passes, 323 mg |
| Disintegration Time | SOP 522 | Meets USP <2040> | Passes, 27 mins. |

*Higher weight on this specific lot

**Purity/Strength per Tablet**

| Active Ingredients | Label Claim | Release Limits | Test Result |
|---|---|---|---|
| DHEA (Dehydroepiandrosterone) | 50 mg | 100 - 150% LC by HPLC | 50 mg |
| **Other Ingredients** | | | |
| Micosolle® , a silca-based excipient containing a non-ionic surfactant, microcrystalline cellulose, vegetable oil, vegetable wax, Aerosil®, Magnesium stearate, Vitamin E | | | |

*Production and Process Control

**Identification \ Chemical \ Heavy Metals**

| Attribute | Method / SOP | Specification | Test Result |
|---|---|---|---|
| Identity | Bulk Certificate of Analysis Review | Approved | Approved |
| Identity | Near Infared Spectroscopy | Matches reference | Complies |
| Arsenic (inorganic) | ICP-MS per USP <2232> | ≤ 15 mcg/day Ψ | 0.0346 mcg/day |
| Cadmium | ICP-MS per USP <2232> | ≤ 5 mcg/day Ψ | BQL |
| Mercury (total) | ICP-MS per USP <2232> | ≤ 15 mcg/day Ψ | BQL |
| Lead | ICP-MS per USP <2232> | ≤ 10 mcg/day Ψ | BQL |

BQL – Below Quantitation Level, Ψ – Permitted Daily Exposure, ϕ - Complies with California Proposition 65 Limits, *Production and Process Control

| Title: **DHEA 50 mg, scored 60 Tablets** | |
|---|---|
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| Document No.: 72660CA | Revision: 007 |

**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: | Date: 12/03/18 |
|---|---|

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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 #3006423386**

# *Test Certificate*

Description: DHEA 50mg
Sample ID:
Lot No: 42660/20181015@1
Part Code:
Location:
PO No: MH10312018
Received: 11/1/2018

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

Lab No: 160901-03
Completed: 11/9/2018

| Analysis | Result | Per Unit | Specifications | Method |
|---|---|---|---|---|
| †DHEA | 50 | mg/tablet | >= 50 mg/tablet | HPLC |

DHEA analysis performed using HPLC by method adapted from Gonzalo-Lumbreras, R., Izquierdo-Hornillos, R., "High-Performance Liquid Chromatographic Optimization Study for the Separation of Natural and Synthetic Anabolic Steroids. Application to Urine and Pharmaceutical Samples," as published in Journal Of Chromatography B-Analytical Technologies In The Biomedical And Life Sciences 742 (1): 1-11 May 2000; utilizing, a water-acetonitrile (55:45, v:v) mobile phase and a Hypersil ODS (250 mmx4.6 mm) 5 mm column (30 °C) in 38 min with photo-diode array detection. Authentic chemical reference materials obtained from Sigma-Aldrich.



**Results Approved By:** Alisa Farnsworth-Quality Technician **Dated:** 11/9/2018

**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: 11/9/2018 1:51:09 PM**

TREND CHECK



11/09/18

chemical solutions ltd.®
trace elemental analysis

# Analytical Report

**November 05, 2018**

Tuyen Luong
Allergy Research Group/NutriCology
2300 North Loop Road
Alameda, CA 94502


WO Number: W18K0018

Client: Allergy Research Group-QC
Client #: A5537-T
Sample Type: Tablet
Collector: Client

Customer PO: MH10312018
Date Received: 11/1/2018
Date Completed: 11/05/2018
Discard Date: 11/19/2018

**CSL#: 18K0031 DHEA 50mg - Lot#: 42660/20181015@1**

| Parameter | Result | PQL | Method | Date | Analyst |
|---|---|---|---|---|---|
| Arsenic | 0.054 ug/g | 0.050 | ICP MS | 11/05/18 | RBP |
| Cadmium | <0.050 ug/g | 0.050 | ICP MS | 11/05/18 | RBP |
| Lead | <0.050 ug/g | 0.050 | ICP MS | 11/01/18 | JTP |
| Mercury | <0.050 ug/g | 0.050 | ICP MS | 11/05/18 | RBP |

**CSL#: 18K0031**

| Parameter | Result | Serving Size | Unit Weight | Specification |
|---|---|---|---|---|
| Arsenic | 0.05 ug/g | 1 Tablet | 0.32 g | <0.50 ug/g |
| Cadmium | <0.05 ug/g | 1 Tablet | 0.32 g | <0.50 ug/g |
| Lead | <0.05 ug/g | 1 Tablet | 0.32 g | <0.50 ug/g |
| Mercury | <0.05 ug/g | 1 Tablet | 0.32 g | <0.50 ug/g |

Respectfully Submitted,
Chemical Solutions, Ltd.

QA Representative

Notes:
CONFIDENTIAL REPORT. This report is confidential and is for the sole use of the addressee.
This report can only be reproduced in full.
The units for the PQL are the same as those shown for the result.

AEMTEK, INC.

466 Kato Terrace.
Fremont, CA 94539
Phone: 510-979-1979
Fax: 510-668-1980
E-mail: labdata@aemtek.com
Web: www.aemtek.com

**Project Description:** Product Testing (PO # MH10312018)
**Report Issued To:** Allergy Research Group
2300 North Loop
Alameda, CA 94501
**Contact:** Janice Vu

# Certificate of Analysis

**AEMTEK #: 1811035**

**Sampling Date:** 2018-10-31
**Sample Received:** 2018-11-01
**Analysis Started:** 2018-11-01
**Analysis Performed By:** JC, WY, EL
**Report Issue Date:** 2018-11-04

| Analyte | | | Aerobic Plate Count | Total Coliforms | Yeast | Mold | Escherichia coli | Salmonella | Staphylococcus aureus |
|---|---|---|---|---|---|---|---|---|---|
| Method | | | AOAC OMA 990.12 | AOAC OMA 991.14 | AOAC OMA 2014.05 | AOAC OMA 2014.05 | USP 37 <62> (mod.) | USP 37 <62> (mod.) | USP 37 <62> (mod.) |
| Reporting Unit | | | CFU/g | CFU/g | CFU/g | CFU/g | per 10g | per 10g | per 10g |
| Method Detection Limit for Reporting | | | 10 | 10 | 10 | 10 | P/A | P/A | P/A |
| **Sample ID** | **Sample Description** | **Lot #/Code** | **RESULTS** | | | | | | |
| 2 | DHEA 50mg | 42660/ 20181015@1 | <10 | <10 | <10 | <10 | ND | ND | ND |

**Terminology:**

CFU = Colony Forming Units g = gram
< Indicates less than the reporting limit as noted
ND = Not Detected, negative, absent. Sensitivity is about 1 organism per test portion.
BAM = FDA Bacteriological Analytical Manual
AOAC OMA = Official Methods of Analysis of the AOAC International, 18th ed.
MPN = Most Probable Number
P/A = Presence/Absence N/A = Not Applicble or not analyzed
CP Staph = Coagulase Positive Staphylococci (Staphylococcus aureus)
CMMEF = Compendium of Methods for the Microbiological Examination of Foods, 4th ed.
AOAC RI = AOAC Research Institute Performance Tested.

11/05/18