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|--|---------------|
| Title: Artemisia, 100 Vegetarian Capsules | |
| Allergy Research Group® / NutriCology® | |
| Document No.: 71160CA | Revision: 009 |

Certificate of Analysis

| | | | |
|---------------------------------|--|-----------------|---------|
| Part Number | 71160 | | |
| Lot Number | 00611 | | |
| Product Count & Form | 100 Vegetarian Capsules | | |
| Packaging, Closure | 225 cc bottle, desiccant, rayon/cotton | | |
| Storage Condition | Room Temperature | | |
| Shelf Life | 36 months | Expiration Date | JUN2023 |
| Label Number, Size | 71160L, C | | |
| Retain Sample | N/A | | |

ANALYSIS

Physical

| Attribute | Method / SOP | Specification | Test Result |
|--------------------------|--------------|----------------------------------|---------------------|
| Product Color & Size | SOP 515 | Greenish Brown, Clear, Size “00” | Complies |
| Product Weight Variation | SOP 514 | Meets USP <2091> 620 – 800 mg | Pass, 701 mg |
| Disintegration time | SOP 522 | Meets USP <2040> | Passes, 23:00 mins. |

*Production and Process control for HPMC capsules

Purity/Strength

| Active Ingredients | Label Claim | Release Limits | Test Result |
|--------------------------------------|-------------|----------------------|-----------------------|
| Sweet Wormwood (Leaves) Extract 30:1 | 500 mg | 100-150% LC by input | 100-150% LC by input* |

Other Ingredients:
Hydroxypropyl methylcellulose, microcrystalline cellulose, L-Leucine

*Production and Process Control

Identification \ Chemical \ Heavy Metals

| Attribute | Method / SOP | Specification | Test Result |
|---------------------|-------------------------------------|-------------------|----------------|
| Identity | Bulk Certificate of Analysis Review | Approved | Approved |
| Identity | HP-TLC for Artemisia annua | Characteristic | Characteristic |
| Identity | Near Infrared Spectroscopy | Matches reference | Complies |
| Arsenic (inorganic) | ICP-MS per USP <2232> | ≤ 15 mcg/day Ψ | 0.159 ppm |
| Cadmium | ICP-MS per USP <2232> | ≤ 5 mcg/day Ψ | 0.012 ppm |
| Mercury (total) | ICP-MS per USP <2232> | ≤ 15 mcg/day Ψ | 0.002 ppm |
| Lead | ICP-MS per USP <2232> | ≤ 10 mcg/day Ψ | 0.031 ppm |

*Production and Process Control, Ψ – Permitted Daily Exposure

Title: **Artemisia, 100 Vegetarian Capsules**

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Microbiology

| Attribute | Method / SOP | Specification | Test Result |
|-----------------------|--------------------|----------------------------|---------------|
| Total Aerobic Count | USP/ AOAC/ FDA BAM | $\leq 1 \times 10^4$ CFU/g | < 10 CFU/g |
| Total Yeast & Mold | USP/ AOAC/ FDA BAM | $\leq 1 \times 10^3$ 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:  | Casey Van Wagoner 2020.07.27 09:53:28 -06'00' | Date:27JUL2020 |
|---|--|----------------|

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

Test Certificate

Description: Artemisia
Sample ID: 41160/00611
Lot No:
Location:
Received: 6/16/2020
Completed: 6/22/2020

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

Lab No: 198403-01

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

6/22/2020

Printed: 6/22/2020 2:41:39 PM



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

Test Certificate

Description: Artemisia
Sample ID: 41160/00611
Lot No:
Location:
Received: 6/16/2020
Completed: 6/23/2020

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

Lab No: 198404-01

| Analysis | Result | Per Unit | Specifications | Method |
|-----------------|---------------|-----------------|-----------------------|------------------|
| Mercury | 0.003 | µg/g | < 0.5 µg/g | ICP-MS USP <730> |
| Lead | 0.044 | µg/g | < 0.5 µg/g | ICP-MS USP <730> |
| Arsenic | 0.227 | µg/g | < 0.5 µg/g | ICP-MS USP <730> |
| Cadmium | 0.017 | µg/g | < 0.5 µg/g | ICP-MS USP <730> |

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Results Approved By:



Kristina Noll - Quality Technician

Dated:

6/23/2020

Printed: 6/23/2020 1:08:07 PM



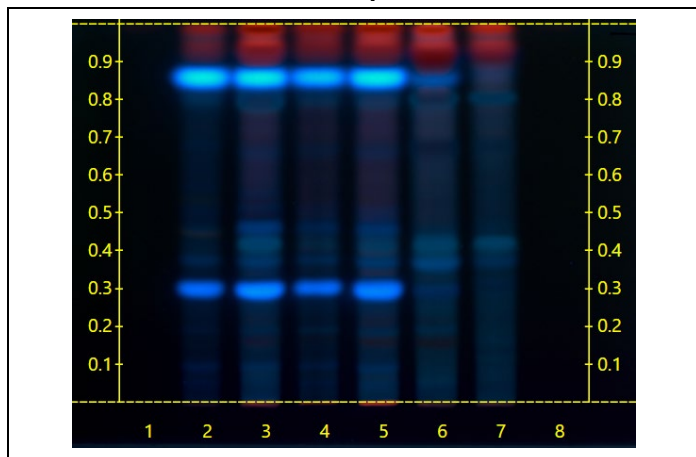
Certificate Issued To:
Allergy Research Group
2300 S. Main St.
South Salt Lake, Utah 84115
United States



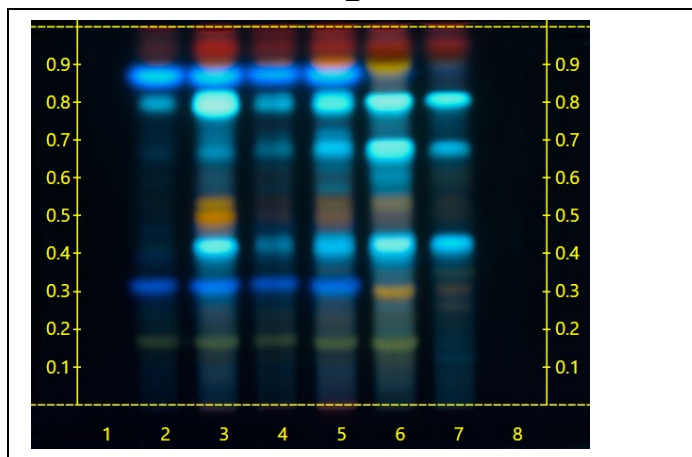
Work performed at:
Alkemist Labs
12661 Hoover Street
Garden Grove, CA 92841
714-754-HERB (4372)
714-668-9972 (FAX)
Sales@Alkemist.com
www.Alkemist.com

Certificate of Analysis: Artemisia (41160/00611)
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name: Allergy Research Group
Title: Artemisia
Plant Part: leaf
Sample Received: 06/02/20
Sample Packaging: Clear Whirl-Pak
Form of Botanical: powdered extract
Appearance: Green powder in clear capsules
Lot Number: (41160/00611) → Lanes 4(1µl), 5(3µl)
Sample: 20154TJE_1
Latin Name: *Artemisia annua* L. [Asteraceae]
Reference Sample: Lane 2(6µl) (IQ27106AP) *Artemisia annua* (herb (leaf, stem)); Lane 3(6µl) (IQ21808PB) *Artemisia annua* (herb); Lane 6(6µl) (BH27106AP) *Artemisia vulgaris* (leaf); Lane 7(6µl) (MC01107AB) *Artemisia absinthium* (herb); held at Alkemist Labs, Garden Grove, CA.
Analyst: A. Davis, N. Afendikova, M. Edwards, S. Kabbaj, N. Hoang, K. Tran, J. Lopez, J. Mares 135806
Sample Preparation: 0.3g+3mL Methanol, sonicate/heat at 50°C for 30 min.
Stationary Phase: Silica gel 60, HPTLC plates
Mobile Phase: ethyl acetate: Acetic acid: Formic Acid: Water [10/0.9/0.9/2]
Detection: (1) UV 366 nm
(2) Natural Product + Polyethylene Glycol, 366nm (Reich, E., 2007)
Reference Source: BTM-715-0097
IDT-SOP-72-01

Comments & Conclusions: Lanes 4, 5 are the test sample Artemisia (41160/00611). Lanes 2, 3, 6, 7, are the reference samples used for comparison. This test sample, Artemisia (41160/00611) is consistent with the chromatographic profile of the reference samples of *Artemisia annua*, used above. **This test sample Artemisia (41160/00611) has characteristics of *Artemisia annua* leaf.**

NOTE: The above conclusion may be a function of the natural variance found in botanicals &/or the extraction process used to create specific extracts. The growing and drying conditions, age, seasonal variations, geographic location, extraction solvents, etc. all play a role in the phytochemical fingerprint of botanicals as well as their extracts; hence, chromatographic variations are expected.

Examined, Reviewed & Authorized by: Khanh N Tran, HPTLC, R&D Supervisor, Alkemist Labs

Report Date: 06/05/20

ISO/IEC 17025



CERTIFICATE #3851.01

Note: Any unidentified lanes in the above chromatograms are confidential and may represent internal studies or other test samples not related to 41160/00611. This report applies to the sample investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. This report is for the exclusive use of the party who requested the report and not for public dissemination or use by third parties, including for promotional purposes, without the prior written permission of Alkemist Labs, Inc. This report provides technical results for a specific sample and the report shall not be altered, modified, supplemented or abstracted in any manner. Any violation of these conditions renders the report and its results void. © 2020 Alkemist Labs, Inc. All Rights Reserved