LIFTMODE

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Chicago, IL 60605

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CERTIFICATE OF ANALYSIS

Cistanche

(Cistanche deserticola Extract)

Material Lot #: 2019-09-01
Country of Origin: China

Manufacturer Analysis Date: 01/09/2019
Analysis Date: 05/07/2020
Retesting Date: 05/07/2023

Analysis	Claim	Result
Echinacoside	≥22%	23.2%
Acetoside	≥6%	16.1%

Test	Specification	Result
Echinacoside HPLC Assay	≥22%	23.2%
Acetoside HPLC Assay	≥6%	16.1%
ICP-MS		
Arsenic	≤1.5 ppm	0.015 ppm
Lead	≤0.5 ppm	0.014 ppm
Cadmium	≤0.5 ppm	0.005 ppm
Mercury	≤0.5 ppm	<0.001 ppm
Total Aerobic Count	≤1000 cfu/g	Conforms
Yeast & Mold	≤100 cfu/g	Conforms
Coliform	≤10 cfu/g	Conforms
E.coli	Negative	Conforms
Salmonella	Negative	Conforms

Cistanche Deserticola Extract should be stored at or below room temperature in a tightly sealed durable container.
Cistanche Deserticola Extract should be protected from excess heat, direct sunlight, excess humidity, and moisture.
Cistanche Deserticola Extract has a retesting period of 3 years from the date of analysis when properly stored.

Cistanche deserticola

Main Benefits

- ***Cistanche deserticola,*** also known as "desert Ginseng" or by its Traditional Chinese Medicine (TCM) name "Rou Cong Rong," has been used throughout Asia as a tonic for sexual health, anti-aging, and memory enhancement.
- While the mechanisms are poorly understood, phenylethanoid glycosides Echinacoside and Acetoside are believed to be the primary active compounds. Both interact with Ghrelin receptors and may induce hunger.
- Cistanche sp. may have androgen-like effects and increase bone density, skeletal muscle mass in aging populations, and skin elasticity.

Main Cautions

- Some evidence suggests ***Cistanche deserticola*** **Extract** may have a sedative effect, so caution is advised before driving or operating heavy machinery.
- ***Cistanche deserticola*** **Extract** is generally well tolerated but caution is still advised when investigating higher doses.
- Consult your healthcare provider before use if you have a medical condition or if you are taking any prescription medications.

Usage Tips

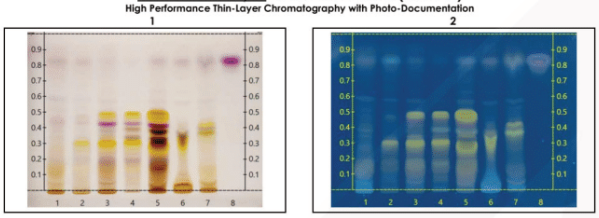
- A 0.15cc measuring scoop is included. Two level scoops contains approximately one serving of **200mg *Cistanche deserticola* Extract**. As a dietary supplement, take 1 serving up to 2 times per day. Start at the lower suggested quantity to assess response.
- There are no known negative side effects attributed to ***Cistanche deserticola*** **Extract**, but those using hormonal medications & contraceptives should speak to a doctor before use.
- ***Cistanche deserticola*** **Extract** is very hygroscopic in nature and should be kept tightly sealed and away from moisture.
- This supplement is not intended to treat, diagnose, prevent, or cure any diseases. Consult your healthcare provider before use if you have a medical condition or if you are taking any prescription medications.
- It is safe to stack ***Cistanche deserticola*** **Extract** with other supplements as long as the amount consumed does not exceed the suggested serving size.
- The benefits of ***Cistanche deserticola*** **Extract** are most effective when they are supported by a healthy diet and plenty of exercise.

Certificate Issued To:
Synaptent
47 W. Polk St.
Chicago, Illinois 60605

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: Cistanche deserticola (20190901)

High Performance Thin-Layer Chromatography with Photo-Documentation



Company Name:	Synaptent
Title:	Cistanche deserticola
Plant Part:	stem
Sample Received:	06/24/20
Sample Packaging:	Foil Pouch
Form of Botanical:	powdered extract
Appearance:	Fine Powder
Lot Number:	(20190901) →Lanes 4(0.5µl), 5(3µl)
Sample:	20176HJI_1
Latin Name:	*Cistanche deserticola* Ma [Orobanchaceae]
Reference Sample:	Lane 1(3µl) (SN217025WH) Cistanche deserticola (herb); Lane 2(3µl) (SN33306BIN) Cistanche deserticola (aerial part); Lane 3(3µl) (SN25608NYS) Cistanche deserticola (stem); Lane 6(3µl) (AFN01411BIN) Cistanche salsa (stem); Lane 7(3µl) (AFN13308BIN) Cistanche salsa (aerial part); held at Alkemist Labs, Garden Grove, CA.
Analyst:	A. Davis, N. Afendikova, M. Edwards, S. Kabbaj, N. Hoang, K. Tran, J. Lopez, J. Mares 138079
Sample Preparation:	0.3g+3mL 70% grain Ethanol, sonicate/heat at 50° C for 30 min.
Stationary Phase:	Silica gel 60, HPTLC plates
Mobile Phase:	ethyl acetate: Methanol: Water [7.7/1.7/1]
Detection:	(1) Vanillin/Sulfuric, 110°C, 2min, vis (Reich, E., 2007) (2) Vanillin/Sulfuric, 110°C, 2min, 366nm (Reich, E., 2007)
Reference Standard:	Lane 8(3µl) β-Sitosterol (R026A0, USP), Methanol (0000206696, VWR)
Reference Source:	Method Developed by Alkemist Labs IDT-SOP-72-01

Comments & Conclusions: Lanes 4, 5 are the test sample Cistanche deserticola (20190901). Lanes 1, 2, 3, 6, 7, are the reference samples used for comparison. This test sample, Cistanche deserticola (20190901) is consistent with the chromatographic profile of the reference samples of *Cistanche deserticola*, used above. **This test sample *Cistanche deserticola* (20190901) has characteristics of *Cistanche deserticola* stem.**

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.

Khanh Tran
HPTLC, R&D Technical Supervisor

Digitally signed by Khanh Tran
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Adobe Acrobat version: 2020.009.20067

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

Report Date: 07/01/20

ISO/IEC 17025 ACCREDITED 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 20190901.

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CERTIFICATE OF ANALYSIS

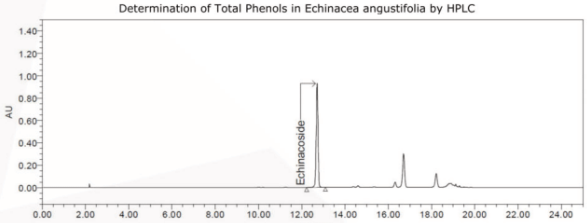
ALKEMIST LABS

12661 Hoover Street Garden Grove, CA 92841 | P. 714-754-4372 | F. 714-668-9972 | www.alkemist.com

Report Issued To: Synaptent
47 W. Polk St.
Chicago Illinois 60605

Sample Name: Cistanche deserticola
Description: Powdered extract; Fine Powder
Lot #: 20190901
AL #: 20176HJI_3
Analysis ID: 139579
Received: 06/24/20

Determination of Total Phenols in Echinacea angustifolia by HPLC



Ret. Time (min)	Compound Name	Prep 1 (%) As Is	Prep 2 (%) As Is	Average (%) As Is	Average (%) Dried Basis	Specification	Result
8.1	Caftaric Acid	ND	ND	ND	ND	N/A	N/A
8.6	Chlorogenic Acid	ND	ND	ND	ND	N/A	N/A
12.5	Cynarin	ND	ND	ND	ND	N/A	N/A
12.7	Echinacoside	23.263	23.182	23.223	23.513	NLT 22%	Pass
17.0	Chicoric Acid	ND	ND	ND	ND	N/A	N/A
	Total Phenols	23.263	23.182	23.223	23.513	N/A	N/A

Chromatographic Conditions:

Method:	USP 42 - Echinacea Angustifolia
Column:	AP52 Prodigy 5µ ODS3 100A (250 x 4.6 mm)
Temperature:	35°C
Flow Rate:	1.5 mL/min
Injection Volume:	5 µL
UV Detection:	330nm
Mobile Phase:	0.1% phosphoric Acid in water Acetonitrile
HPLC Instrument:	Alliance_3

Sample Preparation:
Transferred about 125 mg to a round bottom flask. Added 25 mL 70% ethanol and refluxed with shaking for 15 mins. Filtered into vial for analysis.

Report Summary:

Conclusion:	This "Cistanche deserticola" test sample contains an average of 24% echinacoside on the dried basis.
OOS Reference:	N/A
Loss on Drying:	1.24%
Note:	This method has not been validated for this sample matrix by Alkemist Labs.
Notebook Reference:	LC144 p. 77

Analysis Date : 07/10/20 **Analyzed By: A Pham**

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Adobe Acrobat version: 2020.005.20019

Authorized By: Colin Gray
Lead Analytical Chemist

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CERTIFICATE OF ANALYSIS

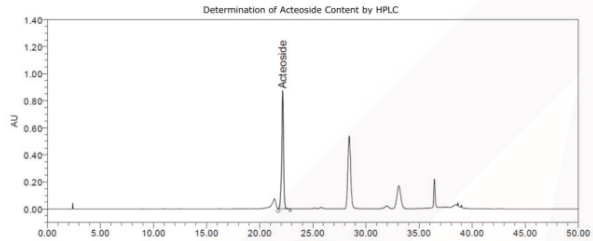
ALKEMIST LABS

12661 Hoover Street Garden Grove, CA 92841 | P. 714-754-4372 | F. 714-668-9972 | www.alkemist.com

Report Issued To: Synaptent
47 W. Polk St.
Chicago Illinois 60605

Sample Name: Cistanche deserticola
Description: Powdered extract; Fine Powder
Lot #: 20190901
AL #: 20176HJI_2
Analysis ID: 139600
Received: 06/24/20

Determination of Acteoside Content by HPLC



Ret. Time (min)	Compound Name	Prep 1 (%)	Prep 2 (%)	Average (%) As Is	Average (%) Dried Basis	Specification	Result
22.2	Acteoside	16.314	15.965	16.140	16.342	6%	Pass

Chromatographic Conditions:

Method:	EP 10.1 - Lemon Verbena Leaf
Column:	AP119 Luna C18(2) 5µm (250 x 4.0 mm)
Temperature:	20°C
Flow Rate:	1 mL/min
Injection Volume:	20 µL
UV Detection:	330 nm
Mobile Phase:	0.3% Phosphoric Acid Acetonitrile
HPLC Instrument:	Alliance_4

Sample Preparation:
Mixed sample well and transferred 500 mg to an erlenmeyer flask. Added 25.0 mL of the standard solution. Mixed with a magnetic stirrer for 2 hours. Centrifuged 10 minutes and filtered into vials for analysis.

Report Summary:

Conclusion:	This "Cistanche deserticola" test sample contains an average of 16% acteoside on the dry basis.
Loss on Drying:	1.24%
OOS Reference:	N/A
Note:	This method has not been validated for this sample matrix by Alkemist Labs.
Empower File:	19120 Acteoside

Celine Deneuve
Senior Analytical Chemist

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Analysis Date : 07/10/20 **Analyzed By: C Gray**

Authorized By: Celine Deneuve,
Analytical Chemistry Supervisor

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Calmaric Analyticals, LLC

Certificate of Analysis

Client:
Synaptent LLC
47 W Polk Street, 100-241
Chicago, IL 60654

Sample Collected By: Client

Product Name	Cistanche Tubulosa	Product Lot Number	20190901
Report Date	05/07/20	Laboratory Number	20030046

Description	Method	Result
Glycosides	UV-vis	39.1%
Lead	ICP-MS	0.014 ppm
Arsenic	ICP-MS	0.015 ppm
Cadmium	ICP-MS	0.005 ppm
Mercury	ICP-MS	<0.001 ppm
Total Aerobic Count	Biolumix	<1, 000 cfu/g
Yeast and Mold	Biolumix	<100 cfu/g
E. Coli	Biolumix	Absent
Coliform	Biolumix	<10 cfu/g
Salmonella	Biolumix	Absent

Glycosides determined based on Echinacoside as the reference material.

Collin Thomas
Laboratory Manager

05/07/2020
Date

The result(s) stated in this report is only for the sample submitted. This report may not be reproduced in whole or in part, nor may any reference be made to the work, the result, or the company in any news release, public announcements or advertising without our prior written consent.

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