

Certificate Issued To:



Work performed at:

Alkemists Pharmaceuticals Inc.

1260 Logan Ave B3

Costa Mesa, CA 92626

714-754-HERB (4372)

714-668-9972 (FAX)

E-mail: info@alkemist.com

Web Site: www.alkemist.com

Certificate of Analysis: Taraxacum officinalis root ()

Macroscopy & Microscopy with Digital Photo-Documentation

1



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2



100.00 µm
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3



100.00 µm
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Company Name:

Title: Taraxacum officinalis

Plant Part: root

Sample Received: 4/4/2007

Sample Description: ~4g in a zip locked bag

Form of Botanical: whole/dry

Appearance: (1) ~1 inch brown fragments of root

Lot #:

Sample #:

Latin Name: Taraxacum officinalis rt Weber ex F.H. Wigg. [Asteraceae]

Reference Sample #: NA10699AHP Taraxacum officinalis rt Weber ex F.H. Wigg. [Asteraceae] authenticated by macroscopic, microscopic &/or TLC studies according to the reference source cited below held at Alkemists Pharmaceuticals, Costa Mesa, CA.

Examiner: EMS

Magnification: (2) 400X

Chemical Reagents: (2) acidified chloral hydrate glycerol solution

Sample Findings: (2) collapsed trichome from the crown of the root

Magnification: (2) 400X

Chemical Reagents: (3) acidified chloral hydrate glycerol solution

Sample Findings: (3) anastomosing laticiferous vessels

Reference Source: Powdered Vegetable Drugs, Jackson, B., 1968;

American Herbal Pharmacopoeia & Therapeutic Compendium

USP-PF, Vol. 27(2) [Mar.-Apr. 2001]; Official Methods of Analysis of AOAC, 16th Ed.

Comments & Conclusions:

This sample is representative of Taraxacum officinalis root based on an authenticated reference samples and the consistent characteristic cellular structure of a root as well as the references cited above. The characteristic cellular structures identified in this sample are the collapsed trichome from the crown of the root seen in micrograph (2) above. In micrograph (3) we see the anastomosing laticiferous vessels. **This test sample, Taraxacum officinalis (), is consistent with the microscopic characteristics of the reference samples of Taraxacum officinalis used above & is characteristic of Taraxacum officinalis root.**

Analyzed by: Élan M Sudberg

Authorized by: Sidney Sudberg, Director, Alkemists Pharmaceuticals

Report Date: 4/17/2007

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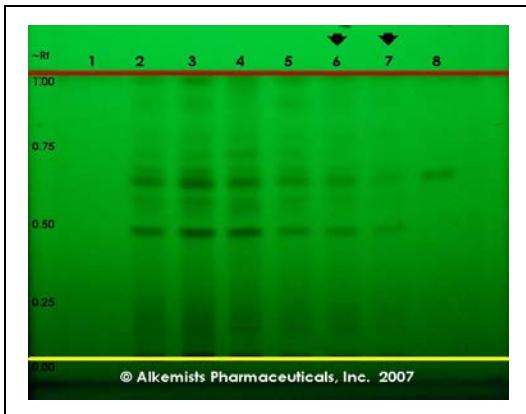
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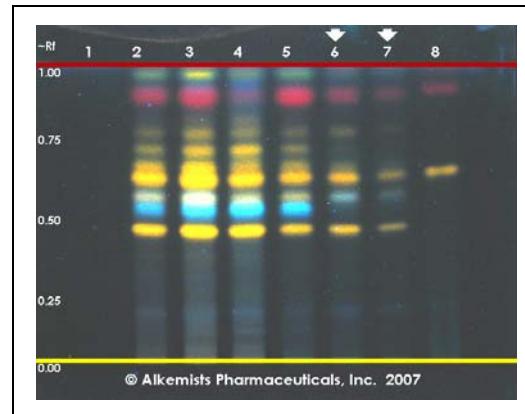
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Certificate of Analysis 1 of 2: St John's Wort ()
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name:

Title: St John's Wort
Plant Part: leaf/stem
Sample Received: 5/10/2007
Sample Description: ~20.5g in a zip lock bag
Form of Botanical: cut and sifted
Appearance: brown and beige fragments of leaf
Lot #: () → Lanes 6(4µl), 7(2µl)
Sample #:
Latin Name: Hypericum perforatum L. [Clusiaceae]
Reference Sample #: Lane 4(3µl) (LF20105BMX2) (Voucherized specimen) (herb); Lane 5(3µl) (LF15399AP) (flower)
Hypericum perforatum authenticated by macroscopic, microscopic &/or TLC studies according to the reference source cited below, held at Alkemists Pharmaceuticals, Costa Mesa, CA.
Examiner: SSS 4194
Sample Prep: 0.3 g + 3ml 70% grain EtOH sonicated + heated in a dry block incubator @ 65° C ~ 1 hr.; dilute 1:5
Stationary Phase: Silica gel 60, F₂₅₄, 10 x 10 cm HPTLC plates
Mobile Phase: ethyl acetate: AcCOOH: HCOOH: H₂O [10/1.1/1.1/2]
Detection: (1) UV 254 nm
(2) Natural Product Reagent + PEG → UV 365 nm
Reference Std: Lane 1(10µl) Hyperforin (FN101204-01, Chromadex); Lane 8(5µl) Hypericin (010200, Sigma-Aldrich), Hyperoside (08916-418, Chromadex) ~0.1% in CH₃OH
Reference Source: Plant Drug Analysis, Wagner, H., 1996

Comments & Conclusions: Yellow line = sample origin @ 10mm, red line = solvent front @ 70mm. Lanes 6, 7 are the test sample St John's Wort (). Lanes 4, 5 are the authenticated reference samples used for comparison. **This test sample, St John's Wort (), is consistent with the chromatographic profile of the reference samples of Hypericum perforatum used above & is characteristic of Hypericum perforatum leaf/stem.**

Authorized by: Sidney Sudberg, Director, Alkemists Pharmaceuticals

Report Date: 5/21/2007

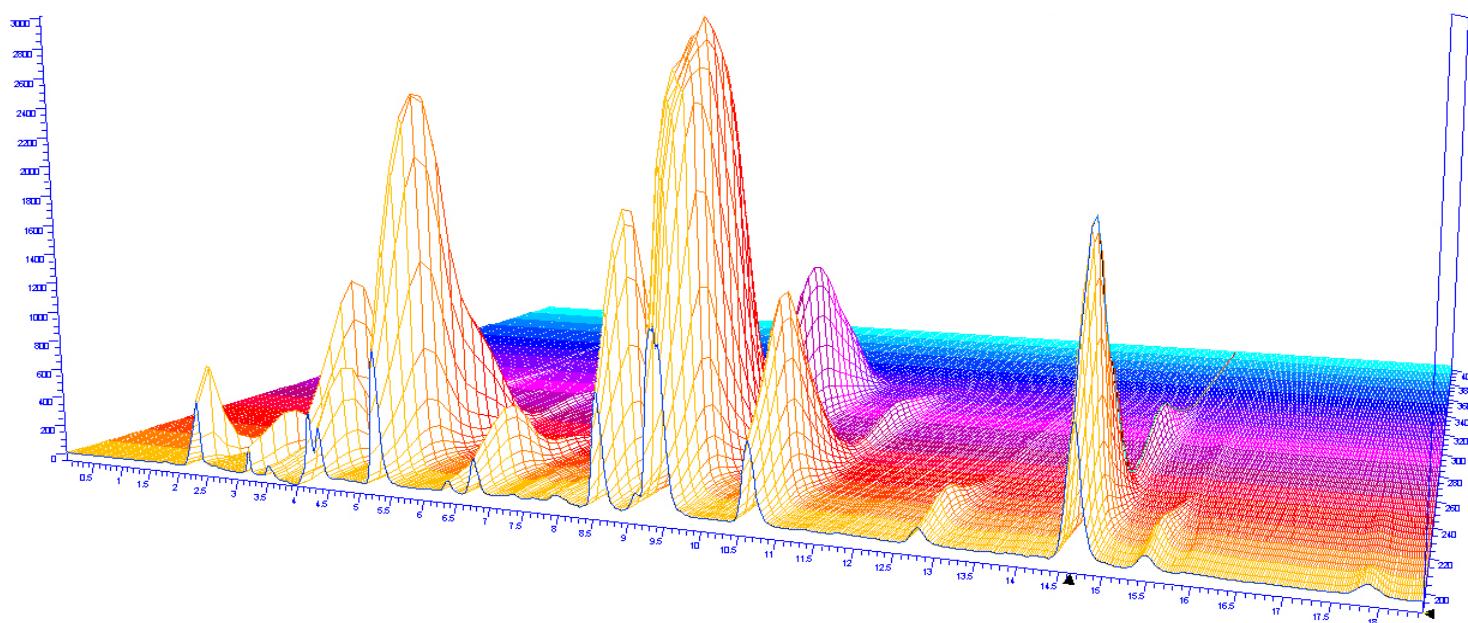
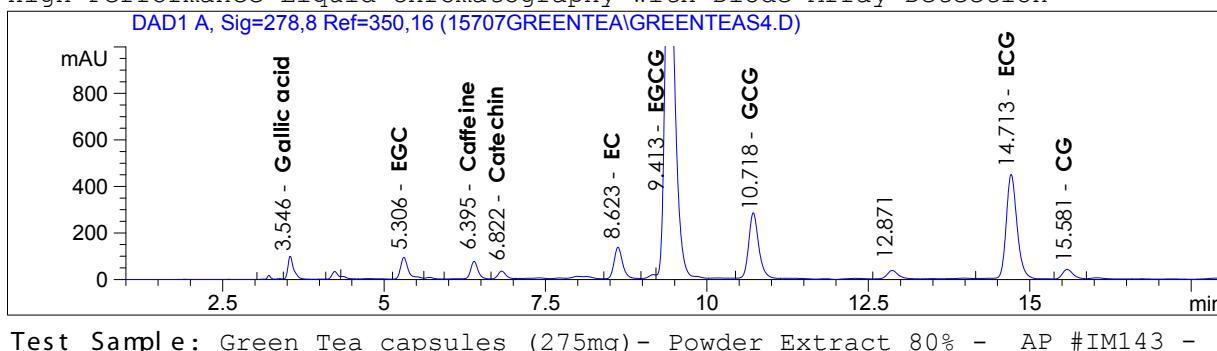
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"CERTIFICATE OF ANALYSIS"

Determination of Catechins in Green Tea Extract by HPLC

High Performance Liquid Chromatography with Diode Array Detection



Chromatographic Conditions:

Column : Gemini C18 150 x 4.6mm
 Column Temp : 25° C
 Flow Rate : 0.7 mL/min
 Injection : 20 μL
 UV Detection: 278nm
 Method : GreenTea.M
 Sequence : 15107GreenTea.S

Mobile Phase C: 0.01% TFA/H2O
 Mobile Phase B: ACN
 Gradient
 Time %C %B
 t=0min 85 15
 t=18.5min 73 27

Sample Preparation: Empty a 20 capsule composite and mix powder well. Weigh 40mg, add 20ml of diluent (0.01% TFA in water) and sonicate for 1h at 55°C. Bring total

Conclusion: This test sample of Green Tea PE contains 56.5% by weight of catechins. With an average fill weight of 275mg, each capsule contains 155mg of total catechins.

(Label claim / expected level: 220 mg/capsule)

Analysis Date: 6/7/2007

Analyzed by C.Ventre, PhD

Authorized by S.Sudberg, Director

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