

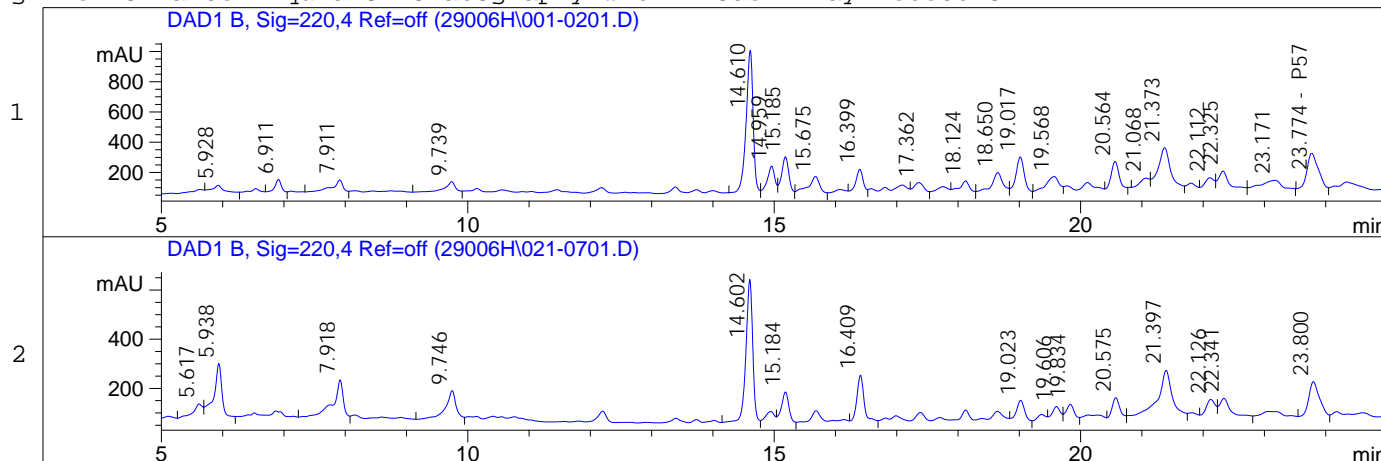


****CERTIFICATE OF ANALYSIS 2 of 3****

Fingerprint Analysis of Hoodia Species for Identity & Purity.

Determination of Relative P57 Content

High Performance Liquid Chromatography with Diode Array Detection

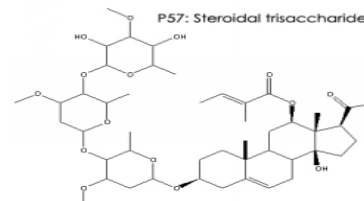


1- Chromatogram of Reference Material: Hoodia gordonii aerial parts - Voucher specimen
 WIND 50986.0, AP #AU21906DBL

2- Chromatogram of Test Sample: Hoodia gordonii - Powder Extract
 No Lot #, AP #AU28906TAG

Reference analyte: steroidal glycoside P57 - Source: Univ. of Mississippi, Lot#07/17/06

Ret. Time	Compound Name	weight %
23.774	P57	0.33



Chromatographic Conditions:

Method	: Hoodia_AOAC.M	Mobile Phase C: Water + 0.1% Acetic acid
Sequence	: 29006H.S	Mobile Phase D: ACN + 0.1% Acetic Acid
HPLC Column	: Gemini 5µ C18 150 X 4.6mm	Gradient: Time C D
Flow Rate	: 1.0 mL/min	t=0 80% 20%
Injection	: 25 µL	t=35min - 100%
Column Temp	: 35° C	
UV Detection	: 220nm	

Sample Preparation: 0.2g of test sample + 4.0 mL MeOH sonicated for 30 min, heated for 1h @ 60C in a dry block incubator then filtered into HPLC vial.

References: I.Khan et al., Journal of AOAC Int'l, Vol 89, No 3, p 606, 2006

Conclusion: Chromatogram #2 (test sample) is consistent with chromatographic fingerprint #1 (voucher specimen of Hoodia gordonii). The peak of reference analyte P57 can be detected.

Analysis Date:10/17/2006

Analyzed by CV

Authorized by S. Sudberg, Director

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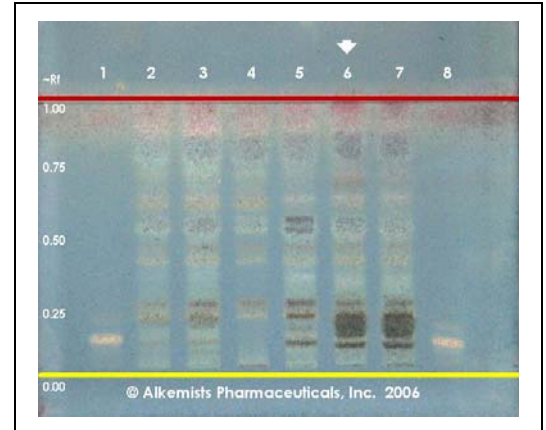
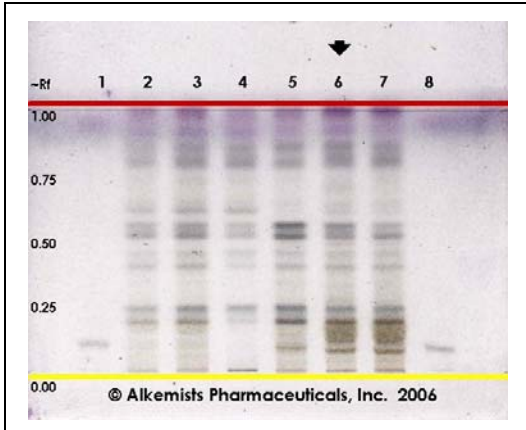


Work performed at:
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Certificate of Analysis 1 of 3: Hoodia
High Performance Thin-Layer Chromatography with Photo-Documentation

1

2



Company Name: Transtrade AG
Title: Hoodia
Plant Part: aerial part
Sample Received: 10/16/2006
Sample Description: ~27g in a zip lock bag
Form of Botanical: crude plant powder
Appearance: beige powder with speckles
Source: N/A
Lot #: (N/A) → Lane 6(3µl)
Sample #: AU28906TAG
Latin Name: Hoodia gordonii (Masson) Sweet ex Decne
Reference Sample #: Lane 4(3µl) (AU14206TA1) (aerial part); Lane 5(3µl) (AU21906DBL) (aerial part) Hoodia gordonii authenticated by macroscopic, microscopic &/or TLC studies according to the reference source cited below, and matching the voucher specimen (AU20604AP) held at Alkemists Pharmaceuticals, Costa Mesa, CA.
Examiner: SSS
Sample Prep: 0.2 g + 4ml CH₃OH sonicated + heated in a dry block incubator @ 65° C ~ 1 hr.
Stationary Phase: Silica gel 60, F₂₅₄, 10 x 10 cm HPTLC plates
Mobile Phase: ethyl acetate: methanol: water [7.7/1.7/1]
Detection: (1) Vanillin/H₂SO₄ Reagent → 110° C 5 min → visible light
(2) Vanillin/H₂SO₄ Reagent → 110° C 5 min → UV 365 nm
Reference Std: Lanes 1(3µl) and 8(3µl) Aescin (93H1029, Sigma-Aldrich) ~0.1% in CH₃OH
Reference Source: Method Developed by Alkemists Pharmaceuticals

Comments & Conclusions: Yellow line = sample origin @ 10mm, red line = solvent front @ 60mm. Lane 6 is the test sample Hoodia (N/A). Lanes 4, 5 are the authenticated reference samples used for comparison. **This test sample, Hoodia (N/A), is consistent with the chromatographic profile of the reference samples of Hoodia gordonii used above & is characteristic of Hoodia gordonii aerial part.**

Authorized by: Sidney Sudberg, Director, Alkemists Pharmaceuticals

Report Date: 10/20/2006

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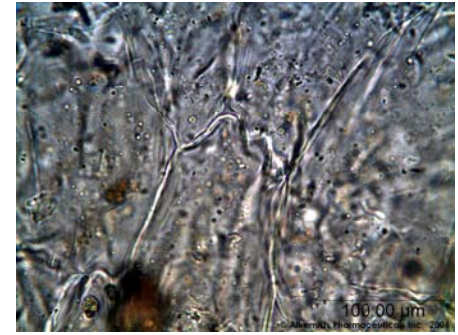
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Certificate of Analysis 3 of 3: Hoodia
Macroscopy & Microscopy with Digital Photo-Documentation

1

2

3



Company Name:	Transtrade AG
Title:	Hoodia
Plant Part:	aerial part
Sample Received:	10/16/2006
Sample Description:	~27g in a zip lock bag
Form of Botanical:	crude plant powder
Appearance:	(1) beige powder with speckles
Lot #:	N/A
Sample #:	AU28906TAG
Latin Name:	Hoodia gordonii (Masson) Sweet ex Decne
Reference Sample #:	Voucher Specimen AU20604AP; AU19106TA6; AU15606AHP2; AU19004PHX, AU11004CHR, AU02006NW, AU11805MHS1 Hoodia gordonii (Masson) Sweet ex Decne 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) bundle of fibers showing whirled striations
Sample Prep:	(3) 400X
Chemical Reagents:	(3) acidified chloral hydrate glycerol solution
Sample Findings:	(3) large thin walled parenchyma with wrinkled cell walls
Reference Source:	Method Developed by Alkemists Pharmaceuticals USP-PF, Vol. 27(2) [Mar.-Apr. 2001]; Official Methods of Analysis of AOAC, 16 th Ed.

Comments & Conclusions:

This sample is representative of Hoodia gordonii aerial part based on authenticated reference samples and the consistent characteristic cellular structure of an aerial part as well as the reference cited above. The characteristic cellular structures identified in this sample are the bundle of fibers showing whirled striations seen in micrograph (2) above. In micrograph (3) we see the large thin walled parenchyma with wrinkled cell walls. **This test sample, Hoodia, is consistent with the microscopic characteristics of the reference samples of Hoodia gordonii used above & is characteristic of Hoodia gordonii aerial part.**

Analyzed by: Élan M Sudberg
Authorized by: Sidney Sudberg, Director, Alkemists Pharmaceuticals

Report Date: 10/24/2006

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