

Report Issued To:
Millennium Health
Supplements (Cda) Inc.
38 A King St. E.
Bowmanville, ON L1C 1N2
Canada



Work performed at:
Alkemists Pharmaceuticals, Inc.
Natural Product Consulting and
Quality Control
1260 Logan Ave B3
Costa Mesa, CA 92626
714-754-HERB (4372)
714-668-9972 (FAX)
E-mail: phytolab@alkemist.com
Web Site: www.alkemist.com

****Certificate of Analysis****

Assay for:

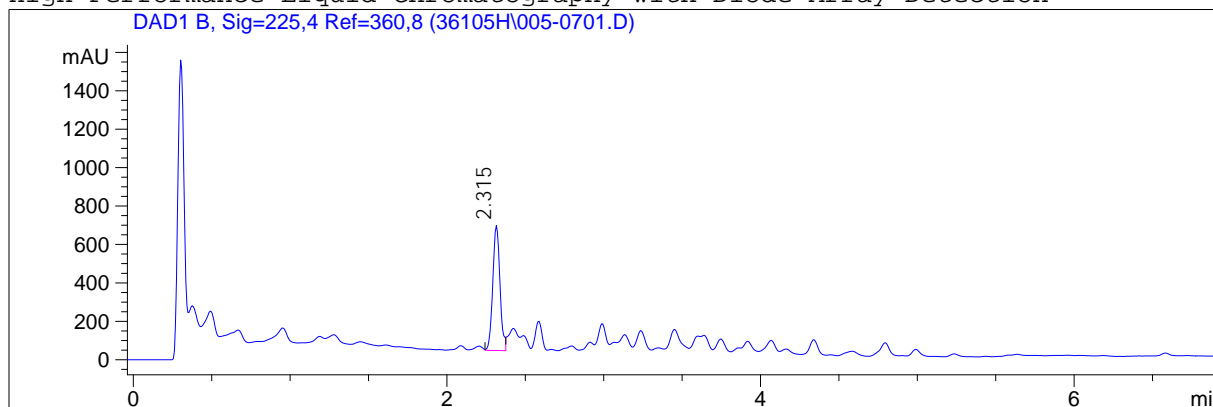
Hoodia gordonii Fingerprint Analysis for Identity & Purity;

Semi-Quantitative Analysis for Potency

Hoodia gordonii: (lot #: 051128)

->

High Performance Liquid Chromatography with Diode Array Detection



Sample : Hoodia gordonii herb
Sample #: AU35605MHS

HPLC column : Onyx Monolithic C18 100 X 4.6mm
Mobile Phase A: Water
Mobile Phase B: ACN

Time	%A	%B
0 min	80	20
5 min	20	80
5.01 min	0	100
7 min	0	100

Column Temperature: 30° C
Flow rate : 5.0 mL/min
UV detection : 225nm
Injection : 25 µL
Sample Preparation: 0.5 g sample in 5 mL MeOH, sonicated 20 min, heated 20 min at 65° C, filtered into HPLC vial.

Comments & Conclusions: The chromatographic profile demonstrated above is characteristic of Hoodia gordonii & confirms the identity of this test sample (Lot # 051128) based upon the fingerprint of a voucher reference specimen of Hoodia gordonii deposited in the herbarium at Alkemists Pharmaceuticals, Inc.

Analysis Date:12/27/2005

Analyzed by: SS/JH

Authorized by: Sidney Sudberg, Director

This report applies to the sample investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and this laboratory, this report is submitted and accepted for the exclusive use of the client whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from this laboratory.

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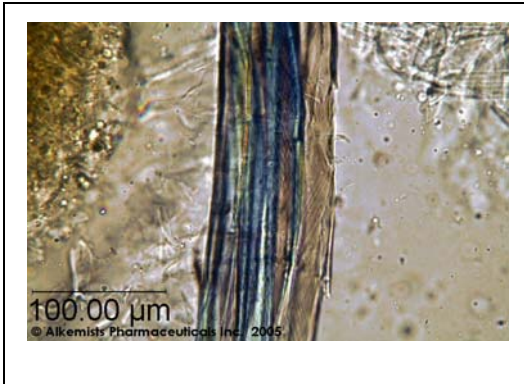
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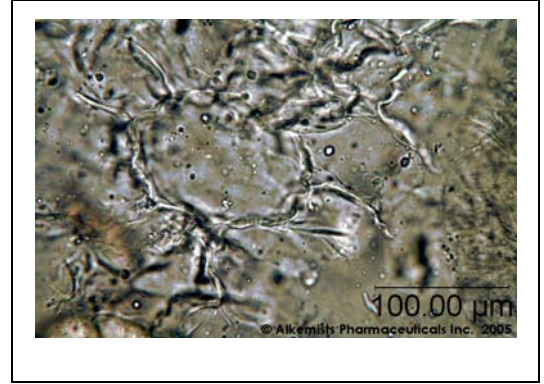
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Certificate of Analysis: Hoodia aerial part (051128)
Microscopy with Digital Photo-Documentation

1



2



Company Name:	Millennium Health Supplements (Cda) Inc.
Title:	Hoodia
Plant Part:	aerial part
Sample Received:	12/22/2005
Sample Description:	~20g in a zip-locked bag
Source:	N/A
Form of Botanical:	crude plant powder
Appearance:	finely ground beige powder
Lot #:	051128
Sample #:	AU35605MHS
Reference Sample #:	Voucher Specimen AU20604AP, AU19004PHX, AU11004CHR Hoodia gordonii authenticated by macroscopic, microscopic &/or TLC studies according to the reference sources cited below held at Alkemists Pharmaceuticals, Costa Mesa, CA.
Latin Name:	Hoodia gordonii
Examiner:	EMS
Magnification:	(1) 400X
Chemical Reagents:	(1) acidified chloral hydrate glycerol solution
Sample Findings:	(1) long fibers showing whirled striations
Magnification:	(2) 400X
Chemical Reagents:	(2) acidified chloral hydrate glycerol solution
Sample Findings:	(2) large thin walled parenchyma showing 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 an authenticated microscopic references 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 long fibers showing whirled striations seen in micrograph (1) above & in micrograph (2) we see the large thin walled parenchyma showing wrinkled cell walls. **These characteristic cellular structures confirm the identity of Hoodia (051128).**

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

Report Date: 12/30/2005

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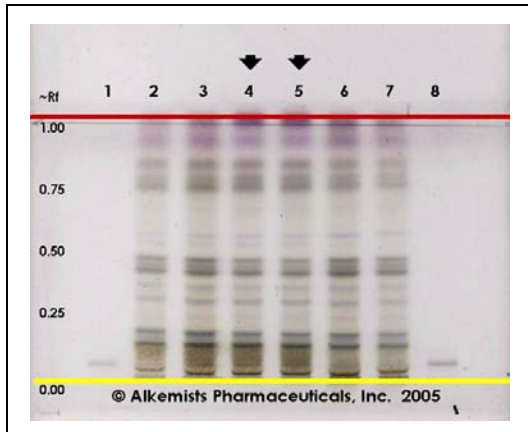
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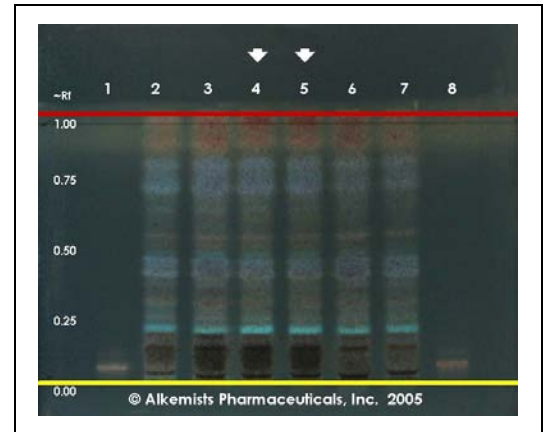
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Certificate of Analysis: Hoodia (051128)
High Performance Thin-Layer Chromatography with Photo-Documentation

(1)



(2)



Company Name: Millennium Health Supplements (Cda) Inc.
Title: Hoodia
Plant Part: aerial part
Sample Received: 12/22/2005
Sample Description: ~20g in a zip-locked bag
Form of Botanical: crude plant powder
Appearance: finely ground beige powder
Lot #: (051128) → Lanes 4(3µl), 5(3µl)
Sample #: AU35605MHS
Latin Name: Hoodia gordonii
Reference Sample #: Lanes 2(2µl), 3(4µl) (AU36504FMG) (aerial part); Lanes 6(4µl), 7(2µl) (AU11805MHS1) (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: 0.3 g + 3 ml 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. Lanes 4, 5 are the test sample Hoodia (051128). Lanes 2, 3 & 6, 7 are the authenticated reference samples used for comparison. As per the reference cited above & the reference samples used for comparison, this test sample is characteristic of Hoodia gordonii. **The chromatographic profile demonstrated above confirms the identity of Hoodia (051128).**

Authorized by: Sidney Sudberg, Director, Alkemists Pharmaceuticals

Report Date: 12/28/2005

This report applies to the sample investigated and is not necessarily indicative of the quality or condition of apparently identical or similar products. As a mutual protection to clients, the public and this laboratory, this report is submitted and accepted for the exclusive use of the client whom it is addressed and upon the condition that it is not to be used, in whole or in part, in any advertising or publicity matter without prior written authorization from this laboratory.
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