

CERTIFICATE OF ANALYSIS



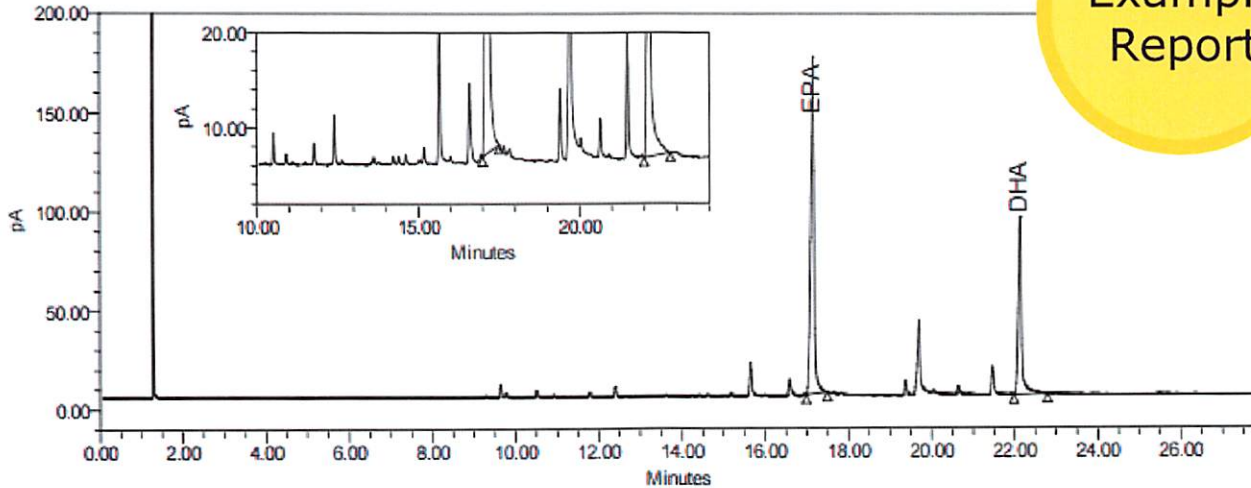
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Report Issued To: Dietary Supplement Company
1234 Main Street
Los Angeles, CA 90000

Sample Name: Fish Oil
Description: Crude Fish Oil
Lot #: ABCDEFG
AL #: 12345
Analysis ID: 42021
Received: 01/01/16



Determination of EPA and DHA Content by GC-FID



Ret. Time (min)	Compound Name	Amount (%)	Amount (mg/serving)	Specification	Result
17.0	Eicosapentaenoic Acid (EPA)	59.90	3392	NLT 3000 mg	Pass
22.0	Docosahexaenoic Acid (DHA)	36.45	2064	NLT 1050 mg	Pass
11.7 - 21.4	Total Other Omega 3's	5.01	284	n/a	n/a

Chromatographic Conditions:

Method: GOED - Voluntary Monograph V.3 - Assay (EPA and DHA)
Column: CP-Wax 52 CB, 25 m x 0.25 mm x 0.2 µm
Carrier Gas: H₂
Split Ratio: 200:1
Injection Volume: 1 µL
Injector Temp: 250° C
Detector Temp: 270° C
GC Instrument: GC_1

Sample Preparation:

Evaporated 2.0 mL sample to dryness at 45°C under nitrogen. Added 1.5 mL 20 g/L sodium hydroxide, stored under nitrogen gas and heated in water bath at 80°C for 7 minutes. Cooled to 45°C and added 2.0 mL boron trichloride in methanol, stored under nitrogen, heated in water bath at 80°C for 30 minutes and cooled to 45°C. Added 1.0 mL trimethylpentane, shook for 30 seconds and added 5.0 mL sodium chloride, stored under nitrogen and shook 15 seconds. Transferred 800 µL to test tube, added 1.0 mL water, shook and added 1.0 mL water. Let layers separate and added 100 mg sodium sulfate, shook 30 second, let layers separate and transferred top layer to GC vial for analysis.

Report Summary:

Conclusion: This "Fish Oil" sample contains 3392 mg EPA, 2064 mg DHA and 284 mg other omega 3 fatty acids per serving.
OOS Reference: N/A
Notes: Serving Size: 5662 mg/serving
Notebook Reference: AB999 p. 9

Analysis Date : 01/10/2016 **Analyzed By:** J Lindberg

Authorized By: Holly E. Johnson, Ph.D.,
Laboratory Director

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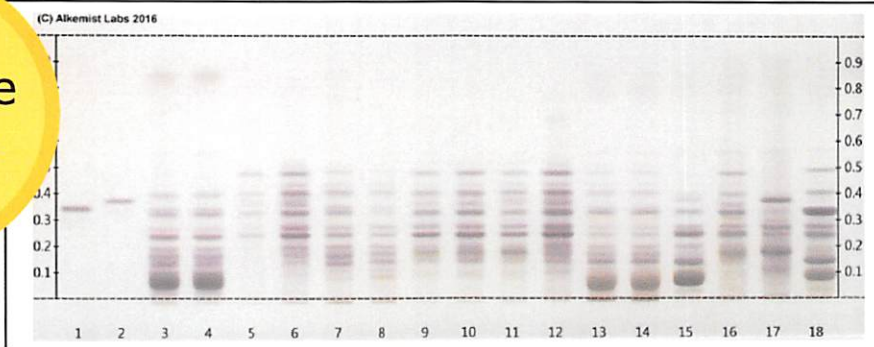


Work performed at:

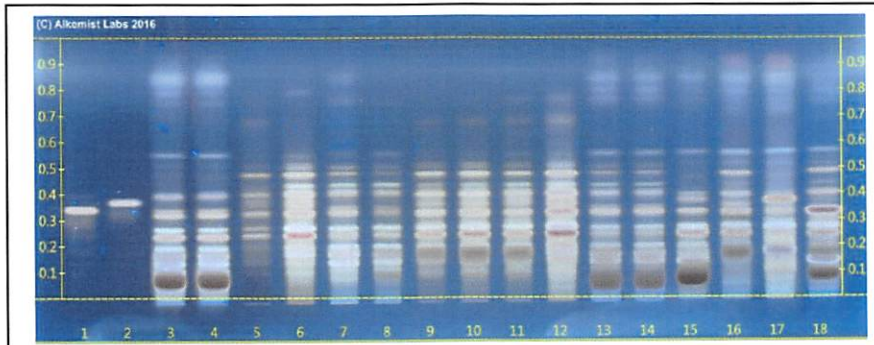
Alkemist Labs
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Certificate of Analysis: Panax Ginseng Extract (ABCDEFG)
High Performance Thin-Layer Chromatography with Photo-Documentation

1



2



Company Name: Dietary Supplement Company
Title: Panax Ginseng Extract
Plant Part: root
Appearance: Foil Pouch
Sample Description: Foil Pouch
Latin Name: Panax ginseng C.A. Mey [Araliaceae]

Sample Received: 01/01/2016
Lot: (ABCDEFG) → Lane 7(0.5µl)
Sample: 12345
Form of Botanical: powdered extract

Reference Sample: Lane 13(2µl) (EA30009CRB) Panax ginseng (root); Lane 14(2µl) (EA13805SWH) Panax ginseng (root); Lane 15(2µl) (LA14609CRB1) Panax quinquefolius (root); Lane 16(2µl) (EA08305SWH) Panax ginseng (leaf); Lane 17(2µl) (LA08905BMX) Panax quinquefolius (herb (leaf, stem)); Lane 18(2µl) (VE15305SWH) Panax pseudoginseng Wall. Var. notoginseng (root); held at Alkemist Labs, Costa Mesa, CA.

Analyst: N. Hoang, L. Scott, P. Fast, T. Collins 65801
Sample Prep: 0.3g+3mL 70% grain EtOH sonicate/heat @~50° C ~ 1/2 hr
Stationary Phase: Silica gel 60, F₂₅₄, HPTLC plates
Mobile Phase: chloroform: ethyl acetate: CH₃OH: water [3/8/4.4/1.8]
Detection: (1) 10% Ethanolic H₂SO₄ → 120° C 10 min → visible light
(2) 10% Ethanolic H₂SO₄ → 120° C 10 min → UV 365 nm

Reference Std: Lane 1(2µl) Ginsenoside Rf (00007216-601, CHR); Lane 2(2µl) Ginsenoside F11 in Methanol (55162, VWR) ~0.1%
Reference Source: Method Developed by Alkemist Labs
IDT-SOP-72-01

Comments & Conclusions: Lane 7 is the test sample Panax Ginseng Extract (ABCDEFG). Lanes 13, 14, 15, 16, 17, 18 are the reference samples used for comparison. This test sample, Panax Ginseng Extract (012-1601204-15), is consistent with the chromatographic profile of the reference samples of Panax ginseng C.A. Mey [Araliaceae], used above. **This test sample, Panax Ginseng Extract (ABCDEFG) has characteristics of an extract derived from Panax ginseng C.A. Mey [Araliaceae] root.**

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: Sandy Sudberg, Senior Data Analyst, Alkemist Labs

Report Date: 01/10/2016



Note: Any unidentified lanes in the above chromatograms are confidential and may represent internal studies or other test samples not related to 012-1601204-15. 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. © 2016 Alkemist Labs, Inc. All Rights Reserved

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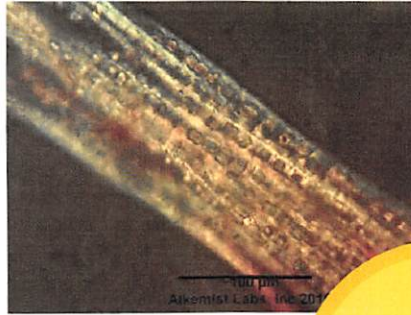
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Certificate of Analysis: Buckthorn Bark (ABCDEFGF)
Macroscopy & Microscopy with Digital Photo-Documentation

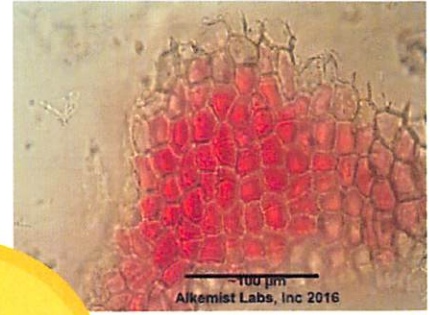
1



2



3



Company Name:	Dietary Supplement Company
Title:	Buckthorn Bark
Plant Part:	bark
Sample Received:	01/01/2016
Sample Description:	Clear Whirl-Pak
Form of Botanical:	crude plant powder
Appearance:	(1) fine brown powder
Lot:	ABCDEFGF
Sample:	12345
Latin Name:	Rhamnus frangula L. (Frangula alnus Miller)
Reference Sample:	JL24515CRB Rhamnus frangula L. (Frangula alnus Miller) authenticated by macroscopic, microscopic &/or TLC studies according to the reference sources cited below; held at Alkemist Labs, Costa Mesa, CA.
Analyst:	E. Sudberg & N. Popejoy
Magnification:	(2) 400X
Chemical Reagents:	(2) acidified chloral hydrate glycerol solution
Sample Findings:	(2) phloem fibers, partially lignified, in groups with crystal sheaths
Magnification:	(3) 400X
Chemical Reagents:	(3) acidified chloral hydrate glycerol solution
Sample Findings:	(3) reddish-brown fragments of cork
Reference Source:	British Pharmacopoeia, 2015 MIC-SOP-54-04, MIC-SOP-54-05, MIC-SOP-54-06, MIC-SOP-510-07

Comments & Conclusions: This sample is representative of Rhamnus frangula L. (Frangula alnus Miller) bark based on an authenticated reference sample and the consistent characteristic cellular structure of bark as well as the references cited above. The characteristic cellular structures identified in this sample are the phloem fibers, partially lignified, in groups with crystal sheaths seen in micrograph (2) above. In micrograph (3) we see the reddish-brown fragments of cork. **This test sample, Buckthorn Bark (ABCDEFGF), is consistent with the microscopic characteristics of the reference samples of Rhamnus frangula L. (Frangula alnus Miller) used above & is characteristic of Rhamnus frangula L. (Frangula alnus Miller) bark.**

NOTE: The presence of soluble excipients and other plant species material was not detected in this test sample.

Analyzed by: Nicholas Popejoy
Examined, Reviewed & Authorized by: Élan M Sudberg, CEO & Microscopist, Alkemist Labs

Report Date: 01/10/2016

ISO/IEC 17025



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CERTIFICATE OF ANALYSIS



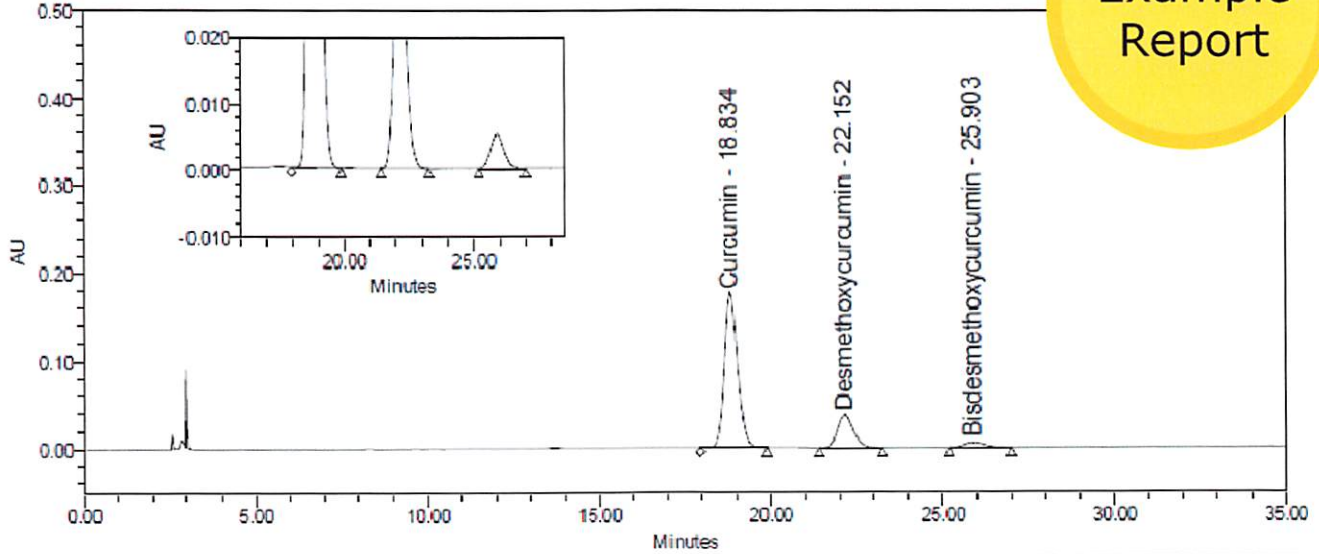
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Report Issued To: Dietary Supplement Company
1234 Main Street
Los Angeles, CA 90000
USA

Sample Name: Turmeric Extract
Description: Powdered extract; Dark orange
Lot #: ABCDEFG
AL #: 12345
Analysis ID: 891011
Received: 01/01/16



Determination of Curcuminoids Content by HPLC



Ret. Time (min)	Compound Name	Amount (%)	Specification	Result
18.8	Curcumin	54.82		
22.2	Desmethoxycurcumin	12.51		
25.9	Bisdesmethoxycurcumin	1.64		
	Total Curcuminoids	68.97	NLT 65%	Pass

Chromatographic Conditions:

Method: USP 38
Column: AP165 Gemini 5µ C18 110A (250 x 4.6 mm)
Temperature: 25°C
Flow Rate: 1 mL/min
Injection Volume: 20 µL
UV Detection: 420 nm
Mobile Phase: Tetrahydrofuran:1 mg/mL Citric Acid in Water (4:6)
HPLC Instrument: Alliance_4

Sample Preparation:

Weighed 25 mg of sample into a 50 mL low-actinic flask and added 30 mL of acetone. Sonicated for 30 minutes at room temperature. Let cool, filled to volume with acetone. Diluted 5:50 with mobile phase and filtered through 0.45 µm PTFE filter into HPLC vial for analysis.

Report Summary:

Conclusion: This "Turmeric Extract" sample contains 69% total curcuminoids on the as is basis.
OOS Reference: N/A
Notebook Reference: AB999 p. 9

Analysis Date : 01/10/2016 Analyzed By: J Lindberg

Authorized By: Holly E. Johnson, Ph.D.,
Laboratory Director

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