

Certificate of Analysis

Droi-Kon™ Chondroitin Sulfate Sodium

Lot #: SN-SC-022814

Date of Manufacturing:
 Expiration / re-test date:
 Molecular Formula:
 Molecular Weight in Daltons:
 Grade:
 Species:
 Lot Size:
 Country of Origin:

February 28, 2014
 February 28, 2017
 $C_{14}H_{22}NNaO_{15}S$
 16,000
 Food/Nutraceutical
 Shark
 5600/kg
 U.S.A.

Description

Appearance:
 Particle Size:
 Solubility:

Powder
 100% thru 80 Mesh
 H_2O

Analytical:

Color:
 Odor:
 Texture:
 Taste:
 pH:
 Fat:
 Moisture:
 Crude Fat/Oil:
 Sodium:
 Sulfur:
 Sulfate:
 Chloride:
 Bulk Density - Tapped:
 Bulk Density - Un-tapped:

Specification	Results
White	Conforms
Deodorized	Conforms
Powder	Conforms
Characteristic	Conforms
5.5 to 7.5	6.121%
<0.2%	0.1%
<7%	5.45%
<2%	1.1%
<4%	2.8%
5.5 - 7.5%	6.2%
<0.24%	Conforms
<0.5%	Conforms
0.65 ~ 0.70 g/ml	0.70 g/ml
0.55 ~ 0.60 g/ml	0.60 g/ml

* Analysis by Advanced Laboratories, NC:

Chondroitin Sulfate: (By Carbazole)

Specification	Results
>90%	91.24%

* Analysis by Atlas Bioscience, AZ:

Chondroitin Sulfate: (By USP CPC Titration)
 Chondroitin Sulfate: (By CPC Enviro)

Specification	Results
>90%	90.26%
>90%	91.22%

* Analysis by BioCenticals, MT:

Chondroitin Sulfate: (By HPLC)
 Identification:

Specification	Results
>90%	90.45%
Positive	Positive

* Analysis by IEH-NE Sani Pure Food Laboratories, NJ:

Chondroitin Sulfate: (By USP CPC Titration)
 Loss on Drying:
 Species: (Tepnel Species ELISA)

Specification	Results
>90%	94.43%
<10%	3.07%
Shark Cartilage	Shark Cartilage

* Analysis by Summit Nutritional Laboratories, UT:

Chondroitin Sulfate: (By USP 35)

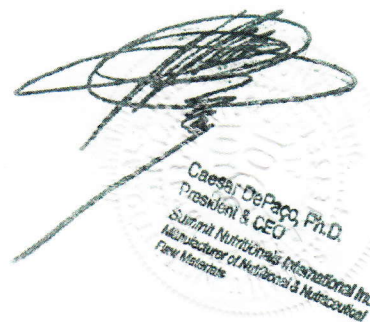
Specification	Results
>90%	103.90%

Page 1 of 2

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 Member of the American Chamber of Commerce in Portugal
 Member of the Bernardsville Chamber of Commerce

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 customerservice@summitnutritional.com • www.summitnutritional.com

INTERNATIONAL BRANCH: Empreendimento Nova Amoreiras • Palácio - 3º Piso / Secção 9 - R. Artilharia Um, 71-77 1250-038 Lisboa - Portugal • Tel: +351 21 482 1965 - Fax: +351 21 482 1966
 international.branch@summitnutritional.com • www.summitnutritional.com



Certificate of Analysis

Droi-Kon™ Chondroitin Sulfate Sodium

Lot #: SN-SC-022814

Heavy Metals:

Lead:
 Cadmium:
 Arsenic
 Mercury:

Specification

<0.5 ppm
 <1 ppm
 <1 ppm
 <0.01 ppm

Results

0.3 ppm
 0.62 ppm
 0.71 ppm
 Conforms

* Microbiological Standards by IEH-NE Sani Pure Food Laboratories, NJ:

Total Plate Count:
 Yeast:
 Mold:
 E.Coli:
 Salmonella:
 Staphylococcus aureus:

Specification

<1000 cfu/g
 <100 cfu/g
 <100 cfu/g
 Absent
 Absent
 Absent

Results

50 cfu/g
 <10 cfu/g
 <10 cfu/g
 Absent
 Absent
 Absent

Organic Volatile Impurities:

<10 ppm

Conforms

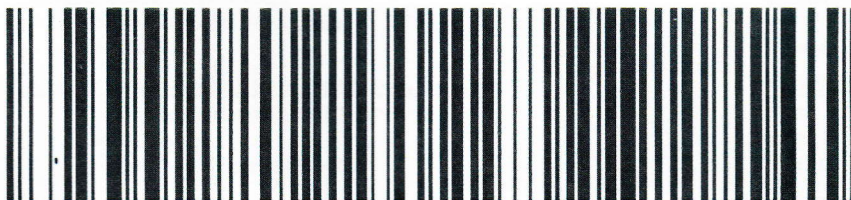
Chemical Name: Sodium (beta-Glucuronic acid-(1-3)N-acetyl-beta-galactosamine-4-sulfate

This product conforms to California's Proposition 65, which regulates toxic substances

The parameters mentioned on this Certificate of Analysis conform to USP Methodology

* The within results have been obtained through testing conducted by Advanced Laboratories ("Advanced") Atlas Bioscience Laboratories ("Atlas"), BioCeuticals Research & Development Analytical Laboratory ("BioCeuticals"), Sani Pure Food Laboratories ("Sani-Pure") & Summit Nutritional Laboratories ("Summit Nutritional"). The information contained herein is intended for informational purposes only and Summit specifically disclaims any reliance upon same by the customer and/or any end user of the materials referenced herein. Summit Nutritional International Inc. ("Summit") does not intend, or contemplate that the customer, or any end user, rely upon the accuracy of the information contained herein. The material referenced herein is sold in "as-is" condition, and any purchaser and/or end user foregoes testing upon the within material at it's own peril. In turn, no guarantee or warranty, either express or implied, is provided hereunder, or with respect to any of the information, testing methods, or conditions under which said testing was conducted. Rather, for any such guaranty, Summit recommends contacting any of the above mentioned laboratories directly. As a result of the foregoing, please be advised that Summit shall not entertain any claims for any damages resulting from non-conformity of said material in the event same is reported subsequent to the fifteen (15) day time period prescribed by Summit within which to do so or in the event that such materials are no longer in their raw material form. Please be guided accordingly.

Keep container tightly closed in a cool well-ventilated place. Protect from light.



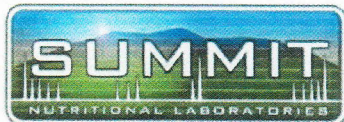
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PO Box 565
Spanish Fork, UT 84660
(801) 796-3463

Report Number: 14 03210

Report Date: 3/18/2014

Sample Details

Item #: SN003
Description: Chondroitin Sulfate (Shark)
Lot #: SN-SC-022814
Received: 3/17/2014 2:54 PM


Customer Information

Summit Nutritionals Int'l Inc
Campus View Plaza Building
1250 Route 28 Suites 305B, 306 & 308
Branchburg, NJ 08876

Certificate of Analysis

Test	Method	MDL	Specifications	Result	Units
Chemistry Chondroitin Sulfate (Shark)	SNL.USP<35>.01	1.0	90 - 105	103.9	%

Report Approved by:


Joel L. Nelson
Laboratory Manager

* = Please review Client Specifications

This report is provided for the exclusive use of the addressee. The Laboratory accepts no responsibility/liability except for the due performance of inspection and/or analysis in good faith.

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If you liked our service, please tell a friend. If you didn't, please tell us!

FDA Registration #2000040668

8969 Cleveland Road, Clayton, NC 27520

Phone: 919-989-7793 Fax: 919-989-9226

Email: nclab@advancedlabsinc.com

Test Certificate

Sample Description:	Droi-Kon™, Chondroitin Sulfate	Client Name	Cesear DePaco
Sample ID:	SN-SC-022814	and Address:	Summit Nutritionals
Sample Lot No:	SN-SC-022814		1250 Route 28
Location:			Suite 305B
Received Date:	3/14/14 11:51		Branchburg, NJ 08876
Completed Date:	3/21/2014	Lab No:	31425-03
PO No:	Lyndsey		

Analysis	Result	Per Unit	Method
†Chondroitin	91.24	% wt	Carbazole

Chondroitin analysis performed by determination of uronic acid content (Ref: Bitter, T. and Muir, H. (1962) Anal. Biochem. 4:330-4). Using tetraborate reagent digestion of sample followed by heating and addition of carbazole reagent. Absorbance read at 530nm. Glucuronic acid standard 40 • g/mL freshly prepared in water utilized as reference obtained from Sigma-Aldrich.

THESE RESULTS APPLY ONLY TO THE SAMPLE SUBMITTED AND NOT TO THE PRODUCT FROM WHICH IT WAS TAKEN. THESE RESULTS ARE PROVIDED ONLY FOR THE BENEFIT OF CLIENT, WITHOUT REPRESENTATION OR WARRANTY OF ANY KIND, EXCEPT FOR THE EXPRESS LIMITED WARRANTY PROVIDED SOLELY TO CLIENT IN ADVANCED LABORATORIES' TERMS OF SERVICE.

THIS CERTIFICATE SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT WRITTEN APPROVAL FROM ADVANCED LABORATORIES.

Results Approved By:


Barbara Taylor-Technical Manager

Dated: 3/21/2014

Printed: 3/26/2014 11:39:36 AM



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ANALYTICAL REPORT

TO: Lyndsey Rickards
Summit Nutritionals International
1250 Rte.28
Ste 305B, 306 & 308
Branchburg, NJ 08876

EMAIL: lyndsey@summitnutritionals.com

P.O.#:

DATE: March 20, 2014

Sample: Droi-Kon™ Chondroitin Sulfate	Lab Number: 12812-03A
	Lot Number: SC-022814

Analyte	Result	Unit
Chondroitin Sulfate USP CPC	90.26	% wt
Chondroitin Sulfate Enviro	91.22	% wt

Chondroitin CPC titration analysis performed using CPC titration in accordance with USP. Authentic reference materials obtained from Sigma-Aldrich.

CPC Enviro analysis performed in accordance with Enviro-Test monograph "Determination of Chondroitin Sulfate In Supplements by Cetyl-Pyridinium-Chloride Titration"; utilizing spectrophotometric titration against 0.1% cetyl pyridinium chloride observing an endpoint detection at 420nm, using second derivative of titration curve at point of zero axis intersection. Authentic reference materials obtained from Sigma-Aldrich.

Dinesh Patel, Ph.D.
Laboratory Director

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Printed: 3/26/2014 10:49:29 AM

Amended Report - Lab No. 12812-03A replaces 12812-03

Page 1 of 1

Mail / Shipping - 120 S Houghton Rd - Ste # 138, PMB 304, Tucson, AZ 85748
Facility - 1775 S. Pantano Rd - Ste # 110, Tucson, AZ 85710

lab@atlas-bioscience.com
(520) 495-0400 tel.
(520) 495-0399 fax

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BioCeuticals Research & Development Analytical Laboratory

Division of All American Pharmaceutical & Natural Foods Corporation

2376 Main Street

Area 12

Billings, MT 59105 U.S.A.

(406) 245-5793

PRODUCT ANALYSIS

To: Lyndsey Rickards
Company: Summit Nutritionals
Date: 03-24-14

Product Name: Droi-Kon ^(TM) Chondroitin Sulfate	Lot Number: SN-SC-022814	P.O. Number: Lyndsey Rickards
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Analyte	Results	Unit
Chondroitin Sulfate Sodium	90.45	% / wt

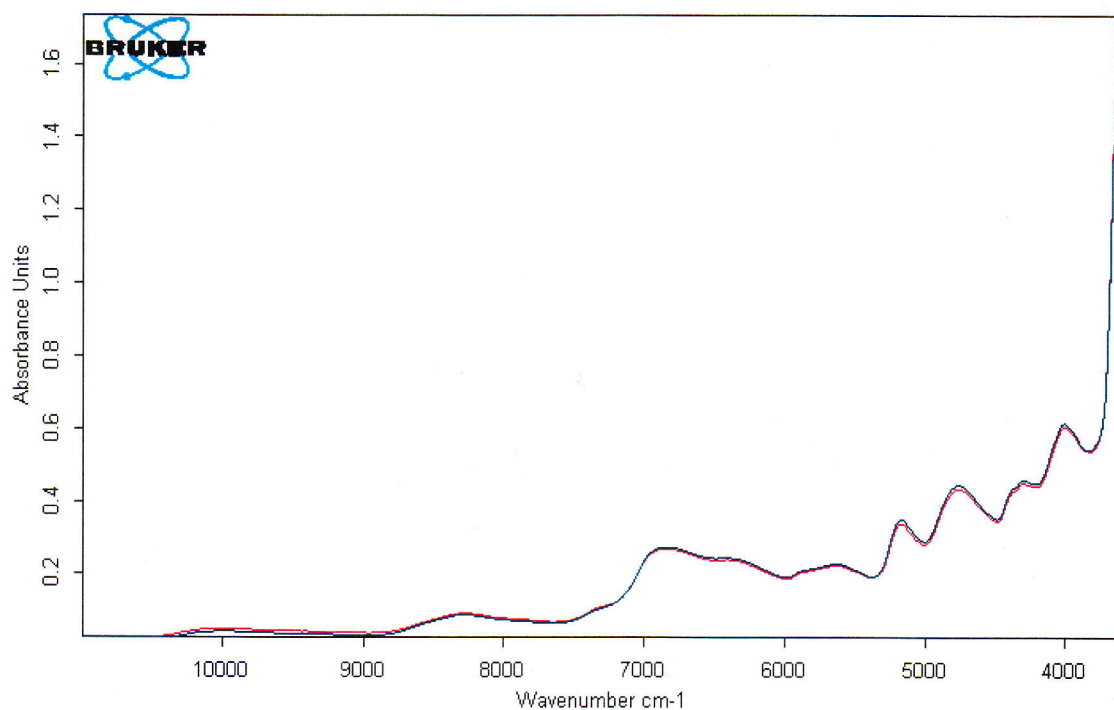
Chondroitin analysis performed by HPLC utilizing Schuster octane sulfonic acid ion-pairing method using a RP-HPLC with a C18 column (250mmx4.6mm). Mobile phases: buffer A; aqueous solution of sodium dihydrogenphosphate and 1-octanesulfonic acid as cation-pairing reagent, pH 2.0. Buffer B; water/acetonitrile 50/50). A gradient was run from 0-40% buffer B in 30 minutes at a flow rate of 1 ml/min and injection volume of 10.00 ul.

External reference material obtained from Sigma-Aldrich.

This Product Analysis is subject to our Standard Terms

Jeff Golini

Jeff Golini
Executive Scientist



C:\OPUS_7.0.129\OpusLab\Spec\RD\Chondroitin Sulfate\Chondroitin Sulfate - (Droi-Kon™)_BV-012314 Reference Standard.0	SI	3/17/2014
C:\OPUS_7.0.129\OpusLab\Spec\RD\Chondroitin Sulfate\Chondroitin Sulfate - (Droi-Kon™)_SC-022814.0	SN-SC-022814;Chond	3/18/2014

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NIR Analysis

Product Name: Droi-Kon™, Chondroitin Sulfate

FTNIR Analysis of Lot#: SN- SC-022814 against external reference standards

Equipment: Bruker Matrix-I

Transformation: Absorbance

Date: 03/25/14

Operator: Alisha Hardy

Identity Positive for: Droi-Kon™, Chondroitin Sulfate



IEH-NE Sani-Pure Food Laboratories

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CHEMISTS TO THE FOOD INDUSTRIES

178-182 Saddle River Road • Saddle Brook, New Jersey 07663-4619
VOICE (201) 843-2525 • FAX (201) 843-4934 • E-MAIL sanipure.labs@verizon.net

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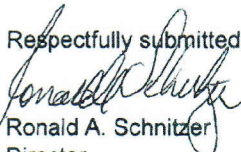
Summit Nutritionals	Date Received:	3/13/2014
1250 Route 28	Date Tested:	3/14/2014
Suite 305 B	Date Reported:	3/19/2014
Branchburg, NJ 08876	Lab Reference No	ISP-03142014-501
	Page Number	1 of 1

Product Identification: DROI-KON™ CHONDROITIN SULFATE, SHARK

Lot Number SN-SC-022814

TEST REQUIRED	RESULT	REQUIREMENT	REFERENCE METHOD
Loss on Drying	3.07%	not more than 10.0%	Oven Drying 4 hrs @ 105° C
Chondroitin Sulfate	94.43%	90.0% to 105.0%, dry basis	USP CPC Titration
Species	SHARK	obtained from Shark cartilage	Tepnel Species ELISA

Respectfully submitted,


Ronald A. Schnitzer
Director

Unless otherwise noted, all samples were received in acceptable condition. The result(s) in this report relate only to the portion of the sample(s) tested. This report does not constitute a release of product for consumption.

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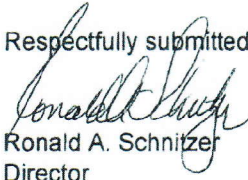
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Date Reported: 3/19/2014
Lab Reference No ISP-03142014-502
Page Number 1 of 1

Product Identification: DROI-KON™ CHONDROITIN SULFATE, SHARK

Lot Number SN-SC-022814

TEST REQUIRED	RESULT	REQUIREMENT	REFERENCE METHOD
Total Plate Count	50 CFU per g	1,000 CFU per g	USP 34 <2021>
Yeasts	< 10 CFU per g	100 CFU per g	USP 34 <2021>
Molds	< 10 CFU per g	100 CFU per g	USP 34 <2021>
Salmonella	ABSENT	ABSENT	USP 34 <2022>
E. coli	ABSENT	ABSENT	USP 34 <2022>
Staphylococcus aureus	ABSENT	ABSENT	USP 34 <2022>

Respectfully submitted,


Ronald A. Schnitzer
Director

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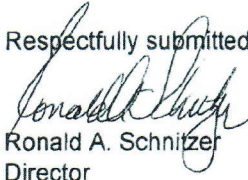
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1250 Route 28
Suite 305 B
Branchburg, NJ 08876

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Product Identification: DROI-KON™ CHONDROITIN SULFATE, SHARK
Lot Number SN-SC-022814

TEST REQUIRED	RESULT	REQUIREMENT	REFERENCE METHOD
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E. coli	ABSENT	ABSENT	USP 34 <2022>
Staphylococcus aureus	ABSENT	ABSENT	USP 34 <2022>

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