

KDN-Vita International, Inc.
121 Stryker Lane, Units 4 & 6
Hillsborough, NJ 08844
Tel:908-359-3502 Fax:908-359-7502

Certificate of Analysis

Droi-Kon[®] Chondroitin Sulfate Sodium
Lot #: SN-SC-060815

Date of Manufacturing:

Expiration / re-test date:

Molecular Formula:

Molecular Weight in Daltons:

Grade:

Species:

Lot Size:

Country of Origin:

June 8, 2015

June 8, 2018

$C_{14}H_{22}NNaO_{15}S$

16,000

Food/Nutraceutical

Shark

5500/kg

U.S.A.

Description

Appearance:

Particle Size:

Solubility:

Powder

100% thru 80 Mesh

H₂O

Analytical:

Color:

Odor:

Texture:

Taste:

pH:

Protein: (anhydrous basis)

Fat:

Moisture:

Crude Fat/Oil:

Sodium:

Sulfur:

Sulfate:

Chloride:

Identification:

Bulk Density - Tapped:

Bulk Density - Un-tapped:

Specification

White

Deodorized

Powder

Characteristic

5.5 to 7.5

<6%

<0.2%

<7%

<2%

<4%

5.5 -7.5%

<0.24%

<0.5%

Positive

0.65 ~ 0.70 g/ml

0.55 ~ 0.60 g/ml

Results

Conforms

Conforms

Conforms

Conforms

6.3

3.1%

0.1%

5.02%

1.9%

3.3%

6.6%

Conforms

Conforms

Positive

0.70 g/ml

0.60 g/ml

* Analysis by Atlas Bioscience, Arizona:

Chondroitin Sulfate: (By Carbazole)

Chondroitin Sulfate: (By USP CPC Titration)

Specification

>90%

>90%

Results

91.40%

90.28%

* Analysis by BioCeuticals R.D.A. Laboratory, Montana:

Chondroitin Sulfate: (By HPLC)

Identification:

Specification

>90%

Positive

Results

90.44%

Positive

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

Chondroitin Sulfate: (By USP CPC Titration)

Loss on Drying:

Species: (Tepnel Species ELISA)

Specification

>90%

<10%

Shark Cartilage

Results

96.61%

2.36%

Shark Cartilage

* Analysis by Summit Nutritional Laboratories, Utah:

Chondroitin Sulfate: (By USP 35)

Specification

>90%

Results

100.70%

Certificate of Analysis

Droi-Kon[®] Chondroitin Sulfate Sodium, Shark
Lot #: SN-SC-060815

*** Physical by Summit Nutritional Laboratories, Utah:**

	<u>Specification</u>	<u>Results</u>
Clarity:	None	Conforms
Clarity Absorbance:	<0.35	0.19310

*** Heavy Metals by Summit Nutritional Laboratories, Utah:**

	<u>Specification</u>	<u>Results</u>
Arsenic	<2 ppm	<0.01 ppm
Cadmium:	<2 ppm	<0.01 ppm
Lead	<1 ppm	<0.01 ppm
Mercury:	<0.5 ppm	<0.01 ppm

*** Microbiological Standards by Sani Pure Food Laboratories, NJ:**

	<u>Specification</u>	<u>Results</u>
Total Plate Count:	<1000 cfu/g	<100 cfu/g
Yeasts:	<100 cfu/g	<10 cfu/g
Molds:	<100 cfu/g	<10 cfu/g
Enterobacterial Count:	Absent	Absent
Salmonella:	Absent	Absent
E Coli:	Absent	Absent
Staphylococcus aureus:	Absent	Absent
Pseudomonas aeruginosa:	Absent	Absent
Listeria monocytogenes:	Absent	Absent
Total Coliforms:	Absent	Absent

Organic Volatile Impurities:	<10 ppm	Conforms
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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 35 Methodology

* The within results have been obtained through testing conducted by 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

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



ANALYTICAL REPORT

TO: KDN-Vita International, Inc.
121 Stryker Lane, Units 4 & 6
Hillsborough, NJ 08844
Tel:908-359-3502 Fax:908-359-7502

EMAIL:
P.O.#:
DATE: June 15, 2015

Sample: Droi-Kon® Chondroitin Sulfate		Lab Number: 23050-01
		Lot Number: SN-SC-060815
Analyte	Result	Unit
Chondroitin by carbazole	91.40	% wt
Chondroitin by CPC	90.28	% wt

Chondroitin by carbazole 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 µg/mL freshly prepared in water utilized as reference obtained from Sigma-Aldrich.

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

Dinesh Patel, Ph.D.
Laboratory Director

This Report is issued in accordance with the Standard Terms and Conditions including but not limited to our services and reports (i) are for the benefit of the client only and may not be used by any other party for any purpose and (ii) relate solely to the sample(s) in our possession and cannot be applied to any other material. Report shall not be reproduced except in full, without written approval of the laboratory. *** END OF REPORT ***

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Page 1 of 1

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(520) 495-0400 tel.
(520) 495-0399 fax

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:

Company: KDN-Vita International, Inc.

Date: 06-22-15

Product Name: Droi-Kon® Chondroitin Sulfate	Lot Number: SN-SC-060815	P.O. Number:
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Analyte	Results	Unit
Chondroitin Sulfate	90.44	% / 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

Dr Jeff Golini

**Dr. Jeff Golini
Executive Scientist**



IEH-NE Sani-Pure Food Laboratories

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

Certificate of Laboratory Analysis

FOR INFORMATIONAL PURPOSES ONLY

KDN-Vita International, Inc.
121 Stryker Lane, Units 4 & 6
Hillsborough, NJ 08844
Tel:908-359-3502 Fax:908-359-7502

Date Received: 6/10/2015
Date Tested: 6/10/2015
Date Reported: 6/15/2015
Lab Reference No ISP-06102015-301
Page Number 1 of 1

Product Identification: DROI-KON® CHONDROITIN SULFATE, SHARK
Lot Number SN-SC-060815

TEST REQUIRED	RESULT	REQUIREMENT	REFERENCE METHOD
Total Plate Count	< 100 CFU per g	1,000 CFU per g	USP 34 <61>
Yeasts	< 10 CFU per g	100 CFU per g	USP 34 <61>
Molds	< 10 CFU per g	100 CFU per g	USP 34 <61>
Enterobacterial Count	ABSENT	ABSENT	USP 34 <61>
Salmonella	ABSENT	ABSENT	USP 34 <62>
E.coli	ABSENT	ABSENT	USP 34 <62>
Staphylococcus aureus	ABSENT	ABSENT	USP 34 <62>
Pseudomonas aeruginosa	ABSENT	ABSENT	USP 34 <62>
Listeria monocytogenes	ABSENT	ABSENT	USP 34 <62>
Total Coliforms	ABSENT	ABSENT	FDA BAM, 8th Edition

CFU: COLONY FORMING UNITS

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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IEH-NE Sani-Pure Food Laboratories

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Page Number 1 of 1

Product Identification: DROI-KON® CHONDROITIN SULFATE, SHARK

Lot Number SN-SC-060815

TEST REQUIRED	RESULT	REQUIREMENT	REFERENCE METHOD
Loss on Drying	2.36%	not more than 10.0%	Oven Drying 4 hrs @ 105° C
Chondroitin Sulfate	96.61%	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

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PO Box 565
Spanish Fork, UT 84660
(801) 210-2084

Report Number: 15 25523
Approved Date: 6/23/2015

Sample Details

Item #: SN003 Shark
Description: Droi-Kon Chondroitin Sulfate
Lot #: SN-SC-060815
Received: 6/10/2015 2:46 PM

Customer Information

KDN-Vita International, Inc.
121 Stryker Lane, Units 4 & 6
Hillsborough, NJ 08844

Certificate of Analysis

Test	Method	MDL	Specifications	Result	Units
Physical					
Clarity	SNL.NIR.505			Pass	
Clarity Absorbance	SNL.NIR.505		<0.35	0.19310	
Heavy Metals					
Arsenic	SNL.ICP.401	0.010	<2	<0.01	ppm
Cadmium	SNL.ICP.401	0.010	<2	<0.01	ppm
Lead	SNL.ICP.401	0.010	<1	<0.01	ppm
Mercury	SNL.ICP.401	0.010	<0.5	<0.01	ppm
Chemistry					
Chondroitin Sulfate (Shark)	USP <35>.101.	1.0		100.7	%

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.