

Certificate of Analysis

Rational Nutrition LLC

800 N King Street
Suite 304 #4106
Wilmington Delaware 19801 United States

Sample Name:	Nippi Collagen RM 257 Aug2025	Eurofins Sample:	15652791
Project ID	RATIONAL_N-20250821-0001	Receipt Date	22-Aug-2025
PO Number	RN001	Receipt Condition	Ambient temperature
Lot Number	257	Login Date	21-Aug-2025
Sample Serving Size	10 g	Date Started	25-Aug-2025
Description	Marine collagen powder - raw material	Sampled	Sample results apply as received
		Online Order	901-2025-E072581

Analysis	Result	Result per Serving
Protein Dumas Method		
Protein Factor	5.55	
Protein	93.7 %	9.37 g/Serving Size
Nitrogen	16.9 %	1.69 g/Serving Size
Amino Acids		
Alanine	9800 mg/100g	980 mg/Serving Size
Arginine	7680 mg/100g	768 mg/Serving Size
Aspartic Acid	5620 mg/100g	562 mg/Serving Size
Collagen (Calculated from hydroxyproline using a conversion factor of 8)	92400 mg/100g	9240 mg/Serving Size
Cystine	27.6 mg/100g	2.76 mg/Serving Size
Glutamic Acid	10000 mg/100g	1000 mg/Serving Size
Glycine	24100 mg/100g	2410 mg/Serving Size
Histidine	823 mg/100g	82.3 mg/Serving Size
Hydroxyproline	11500 mg/100g	1150 mg/Serving Size
Isoleucine	1570 mg/100g	157 mg/Serving Size
Leucine	2630 mg/100g	263 mg/Serving Size
Lysine	3930 mg/100g	393 mg/Serving Size
Methionine	1590 mg/100g	159 mg/Serving Size
Phenylalanine	1950 mg/100g	195 mg/Serving Size
Proline	13200 mg/100g	1320 mg/Serving Size
Serine	3650 mg/100g	365 mg/Serving Size
Threonine	2950 mg/100g	295 mg/Serving Size
Tyrosine	339 mg/100g	33.9 mg/Serving Size
Valine	2370 mg/100g	237 mg/Serving Size
Aerobic Plate Count *		
Aerobic Plate Count	500 (est) CFU/g	
E. coli *		
Escherichia Coli	Absent /10 g	
Enterobacteriaceae (Bile-Tolerant Gram-Negative Bacteria) *		

* This analysis or component is not ISO accredited.

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Analysis	Result	Result per Serving
Enterobacteriaceae (Bile-Tolerant Gram-Negative Bacteria) *		
Enterobacterial Count	<10 MPN MPN/g	
Salmonella USP *		
Salmonella	Absent /10 g	
Staphylococcus *		
Staphylococcus Aureus	Absent /10 g	
Yeast and Mold Count *		
Combined Yeast and Mold Count	<100 CFU/g	
Preparatory Testing of Nutritional and Dietary Supplements *		
Staphylococcus Suitability Result	PASS	
Total Combined Yeast-Molds Count	PASS	
Salmonella Suitability Result	PASS	
E. coli Suitability Result	PASS	
Aerobic Plate Suitability Result	PASS	
Bile-Tolerant Gram-Neg Bacteria Suitability Result	PASS	
Elements by ICP Mass Spectrometry		
Mercury	<0.00500 ppm	
Lead	<0.00500 ppm	
Cadmium	<0.00500 ppm	
Arsenic	<0.0100 ppm	
Chromium *	0.534 ppm	
Infrared Spectrum *		
FT-IR Spectrum		

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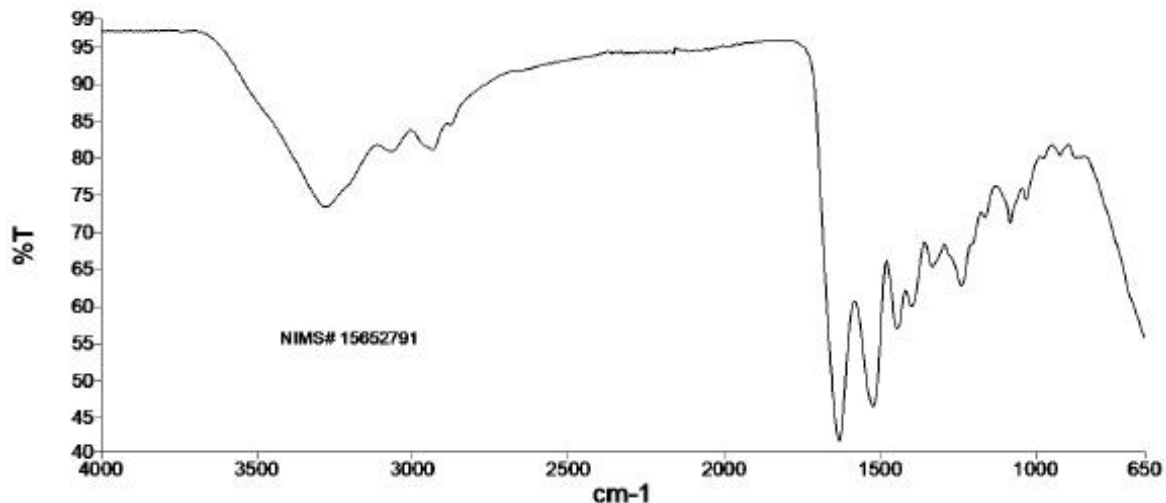
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Analysis	Result	Result per Serving
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Infrared Spectrum *



Name: NIMS# 15652791
Description: Sample 003 By YUM4 Date Tuesday, August 26 2025

IR Preparation Technique

197A - Attenuated Total
Reflectance

Result

IR spectrum obtained

Method References	Testing Location
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Aerobic Plate Count (USPC2021)

Eurofins Micro Lab - Madison
6304 Ronald Reagan Ave Madison, WI 53704 USA

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Method References

Testing Location

Aerobic Plate Count (USPC2021)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2021.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

**Based on the results of the preparatory test, the detection limit stipulated is adequate for the enumeration of the specified microorganisms.

Amino Acids (TAALC_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

R. Schuster, "Determination of Amino Acids in Biological, Pharmaceutical, Plant and Food Samples by Automated Precolumn Derivatization and HPLC", Journal of Chromatography, 1988, 431, 271-284.

Henderson, J.W., Ricker, R.D. Bidlingmeyer, B.A., Woodward, C., "Rapid, Accurate, Sensitive, and Reproducible HPLC Analysis of Amino Acids, Amino Acid Analysis Using Zorbax Eclipse-AAA columns and the Agilent 1100 HPLC," Agilent Publication, 2000. Barkholt and Jensen, "Amino Acid Analysis: Determination of Cysteine plus Half-Cystine in Proteins after Hydrochloric Acid Hydrolysis with a Disulfide Compound as Additive", Analytical Biochemistry, 177, 318-322 (1989).

Henderson, J.W., Brooks, A., "Improved Amino Acid Methods using Agilent Zorbax Eclipse Plus C18 Columns for a Variety of Agilent LC Instrumentation and Separation Goals," Agilent Application Note 5990-4547 (2010).

E. coli (USPE2022)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2022.

To satisfy the requirements of the USP, the Preparatory Test must be completed on each matrix.

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Elements by ICP Mass Spectrometry (ICP_MS_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Official Methods of Analysis, Methods 2011.19 and 993.14, and 2015.01, AOAC INTERNATIONAL, (Modified).

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Method References

Testing Location

Enterobacteriaceae (Bile-Tolerant Gram-Negative Bacteria) (USPN2021)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2021.

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Infrared Spectrum (FTIR_SP_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP-NF <197> Spectroscopic Identification Tests - Infrared Spectroscopy. <https://online.uspnf.com>

Preparatory Testing of Nutritional and Dietary Supplements (USPA_PT)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Preparatory Testing of Nutritional and Dietary Supplements (USPC_PT)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Preparatory Testing of Nutritional and Dietary Supplements (USPE_PT)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Preparatory Testing of Nutritional and Dietary Supplements (USPM_PT)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Preparatory Testing of Nutritional and Dietary Supplements (USPN_PT)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Preparatory Testing of Nutritional and Dietary Supplements (USPS_PT)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Protein Dumas Method (DGEN_S)

Food Integrity Innovation-Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

Official Methods of Analysis of AOAC INTERNATIONAL, 18th Ed., Methods 968.06 and 992.15, AOAC INTERNATIONAL, Gaithersburg, MD, USA, (2005). (Modified)

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Method References

Testing Location

Salmonella USP (USPS2022)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2022.

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Staphylococcus (USPA2022)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2022.

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Yeast and Mold Count (USPM2021)

Eurofins Micro Lab - Madison

6304 Ronald Reagan Ave Madison, WI 53704 USA

USP Current revision, Chapter 2021.

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Testing Location(s)

Released on Behalf of Eurofins by

Food Integrity Innovation-Madison

Edward Ladwig - President Eurofins Food
Chemistry Testing Madison

Eurofins Food Chemistry Testing Madison, Inc.
6304 Ronald Reagan Ave
Madison WI 53704
800-675-8375



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