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Quantitative Analysis of Nicotinamide Riboside Consumer Products and Counterfeit Tru Niagen® Products

June 2025

Executive Summary

Fifty nicotinamide riboside (NR)-containing consumer products were tested for NR potency. None of these 50 products were formulated with Niagen® brand nicotinamide riboside.

- 8 products had NR content at or above the label claim ($\geq 100\%$ label claim).
- 7 products had NR content just below label claim (90-99% of label claim).
- 18 products had NR content well below the label claim (1-89% of label claim).
- 17 products had NR content below the method reporting limit or detection limit (less than 1% of the claimed NR was present or NR was not detected at all).

All of the five consumer products formulated with Niagen® nicotinamide riboside chloride tested met their label claims.

Additionally, seven counterfeit Tru Niagen® products being sold through Amazon or Walmart were tested for NR potency.

- 5 counterfeit Tru Niagen® products did not have NR detected at all
- 1 counterfeit Tru Niagen® product had NR content below the reporting limit (less than 1% of label claim)
- 1 counterfeit Tru Niagen® product had NR content at 90% of label claim.

These findings demonstrate the need for consumers to be discerning when deciding to purchase a nicotinamide riboside product. According to this study, one-third of the NR products on the marketplace contain almost no NR and 70% contain significantly less than the amount claimed on the label. In addition, counterfeit Tru Niagen® products are highly likely to be of poor quality. Alternatively, legitimate Tru Niagen® products are of the highest quality and always meet label claims throughout their shelf life when stored properly.

Introduction

Nicotinamide riboside (NR) is a potent and effective precursor of nicotinamide adenine dinucleotide (NAD). Consequently, a growing range of NR products are available in today's global consumer marketplace. These products come in diverse formats such as capsules, tablets, powders, softgels, liquids, gummies, and liposomal delivery with claimed dosages up to 1500 mg NR per serving.

However, disparities in quality practices and regulatory enforcement across the industry result in significant variability in product quality. It can be challenging to assess a product's quality based solely on its packaging or online presence, as laboratory analysis is needed to confirm the potency of the product.

To gain insight into the landscape of NR products available to consumers, Niagen Bioscience, Inc. conducted an analysis of fifty non-Niagen® NR products. In addition, analytical results from products formulated with Niagen® nicotinamide riboside chloride, including two Tru Niagen® products and three products sold by Niagen Bioscience, Inc. partners, were included for visibility but were not included in the statistical assessment to preserve statistical validity.

Additionally, counterfeit Tru Niagen® products have recently appeared on online marketplaces such as Walmart, Amazon and eBay. These counterfeiters often list imitation products alongside legitimate Tru Niagen®, typically under the same product listing but offered by different unauthorized sellers. Niagen Bioscience, Inc. purchased and analyzed counterfeit Tru Niagen® products from seven separate sellers.

Nicotinamide Riboside Consumer Product Results

Between February 2023 and June 2025, fifty US-based consumer products labeled as containing NR were purchased from Amazon and various brand websites and analyzed for NR content using a validated High Performance Liquid Chromatography (HPLC) method with a UV-Vis detector.

The results showed a wide range of discrepancies between the measured NR content and the label claims (**Table 1 & Figure 1**). None of these 50 products were formulated with Niagen® brand nicotinamide riboside.

- Only 16% of products tested (8 of 50 products) met or exceeded the NR label claim.
- 14% (7 products) contained NR within 90-99% of label claim.
- 70% (35 products) had NR levels significantly below label claims, with:
 - 36% (18 products) having NR content well below the label claim (1-89% of label claim).
 - 34% (17 products) having less than 1% of label claim NR present. Twelve products have no detectable levels of NR at all.

Most products were labeled as containing nicotinamide riboside chloride, while some were labeled as nicotinamide riboside malate. Other products were improperly labeled as nicotinamide riboside, without a designation for the counterion. One product was marketed for pets. One notable finding concerned a top-selling NR brand (Reus Research) on Amazon. This brand was tested at four different intervals, and each test revealed NR content below 10% of the labeled amount.

A variety of product formats were included in the study, such as bulk powders, capsules, tablets, softgels, gummies, and liquids. Products with high water content, such as softgels, gummies, and liquids, consistently showed very low NR levels due to NR's known instability in the presence of water:

- All 9 high-water-content products analyzed contained less than 1% of the labeled NR.
- All four products with the highest claimed dosage of 1500 mg NR were high-water-content formats and had no detectable NR.

Twelve of the 50 products advertised their ingredients as liposomal NR, spanning capsules, softgels, and tablets. The results revealed:

- Six liposomal products contained less than 1% of the labeled NR amount.
- The remaining six liposomal products, including four from Reus Research, had NR content well below label claim (1-89% of label claim)
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By contrast, all five consumer products containing Niagen® branded nicotinamide riboside chloride—including two Tru Niagen® products and three products from Niagen Bioscience, Inc. partners—met their label claims (**Table 2**). These products were tested for content verification but were excluded from the statistical analysis in order to maintain focus on the general NR product market, where such consistency in label claim was not observed.

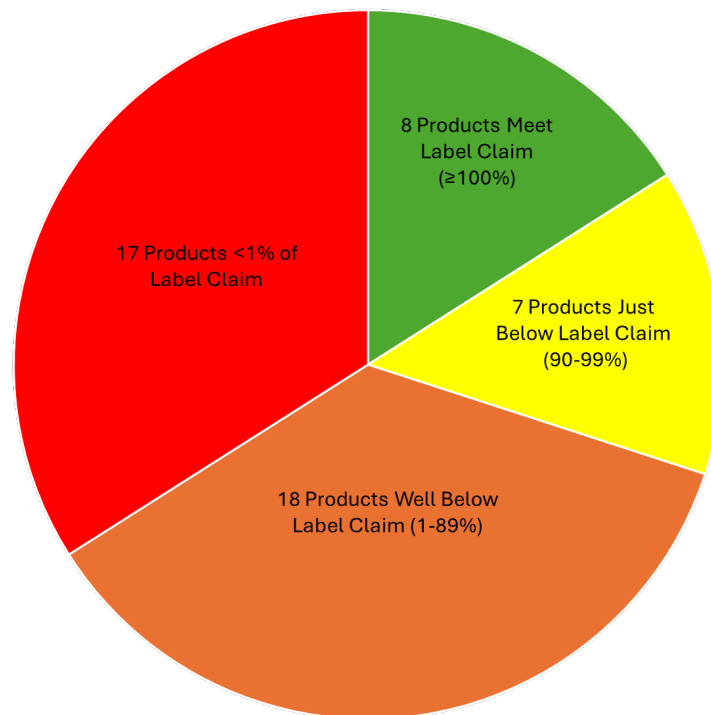


Figure 1: Results from quantitative analysis of fifty commercial NR products

Table 1. Analytical Results for Non-Niagen® Nicotinamide Riboside Consumer Products

Key

- **Red:** <1% of label claim
- **Orange:** Well below label claim (1-89% of label claim)
- **Black:** Near label claim (90-99% of label claim)
- **Green:** Over label claim (≥100% of label claim)

Brand	Product Name	Product Format	Product Label Claim (mg NR/serving)	Result (mg NR/serving)
Advanced Bionetix	NAD+	Capsule	415	133
Aesticum	Liposomal Nicotinamide Riboside 2000MG	Softgel	1500	ND
Alora Naturals	Nicotinamide Riboside	Capsule	300	244
Aquifoly	Liposomal NR 1500MG	Softgel	1500	ND
Black Forest	Nicotinamide Riboside 900mg	Capsule	900	896
Blueprint	Essential Capsules	Capsule	300	235
BODHE	SUPREME	Capsule	300	96
Cellulim	Anti-aging Spirit NR 500mg	Capsule	500	BRL
Cognitune	NR + Resveratrol	Capsule	300	284
Designs For Health	Mito-NR	Capsule	300	295
Elysium Health	Basis	Capsule	250	261
Elysium Health	Cofactor	Powder	250	305
Eterna	Eternity NAD+ & Cellular Longevity	Capsule	300	ND
Eternal Life Laboratory	Longevity Blend #1	Capsule	250	288
GENEX	NR	Capsule	300	274
Genuine Purity	Nicotinamide Riboside	Capsule	300	498
GriMed	Resveratrol	Capsule	200	ND
Happy Aging	Longevity Shot NAD+ Support	Liquid	100	BRL
Health Thru Nutrition	NR+PQQ	Capsule	300	250
High Quality	NAD+ Nicotinamide Riboside Chloride	Capsule	500	BRL
Hi-Tech Pharmaceuticals	Liposomal NAD+ Nicotinamide Riboside	Tablet	250	52
HOP Box	Longevity- Hourglass Tipper	Capsule	250	121
inGreens	Liposomal NAD+ 1800MG	Softgel	200	1
Lovita	NR	Capsule	350	292
Neurogan	Nicotinamide Riboside Drops	Liquid	125	ND
Neurogan	Nicotinamide Riboside Gummies	Gummy	500	ND
Neurogan	NR PRO	Capsule	900	292
Orgabay	Liposomal Nicotinamide Riboside	Softgel	1500	ND
partiQlar	PURE NR	Capsule	350	312

Continued Table 1. Analytical Results for Non-Niagen® Nicotinamide Riboside Consumer Products				
Brand	Product Name	Product Format	Product Label Claim (mg NR/serving)	Result (mg NR/serving)
Plantanium	NR	Capsule	1000	264
Prescribed For Life	Nicotinamide Riboside Chloride	Powder	250	244
Probase Nutrition	NR	Capsule	500	501
ProHealth Longevity	NR Plus Pterostilbene	Capsule	250	389
Renue By Science	NR 1000	Capsule	1000	989
Renue By Science	NR 1000	Capsule	1000	968
Renue By Science	NAD+ Complete	Capsule	100	71
Reus Research	Liposomal NAD+ Nicotinamide Riboside + Resveratrol 900mg	Capsule	500	30
Reus Research	NAD+ Nicotinamide Riboside + Resveratrol 900mg	Capsule	500	33
Reus Research	NR 500mg	Capsule	500	47
Reus Research	NR 500mg	Capsule	500	11
Rokit America	NR + Glutathione	Capsule	300	BRL
Shizam	World's First Gummies	Gummy	250	ND
Synchronicity	NAD+ Booster	Capsule	750	ND
Thorne	NiaCel 400	Capsule	415	475
Thorne	ResveraCel	Capsule	415	425
Vantein	Liposomal Nicotinamide Riboside 1500 MG	Softgel	1500	ND
Vetvittles	RESET (pet product)	Capsule	45	17
Vitasave	NiaMax NAD+	Capsule	300	232
Yeaaut	Liposomal Nicotinamide Riboside Capsule	Capsule	500	ND
ZENUP Research	NAD+ Nicotinamide Riboside 1100mg	Capsule	600	ND
BRL – Below Reporting Limit; ND – Not Detected Reporting Limit – 1% or less of label claim.				

Table 2. Analytical Results for Nicotinamide Riboside Consumer Products containing Niagen®				
Key Green: Over label claim (≥100% of label claim)				
Brand	Product Name	Product Format	Product Label Claim (mg NR/serving)	Result (mg NR/serving)
Life Extension	NAD+ Cell Regenerator & Resveratrol Elite	Capsule	300	405
Pure Encapsulations	NR Longevity	Capsule	300	330
QUALIA	NAD+	Capsule	300	327
Tru Niagen	300mg	Capsule	300	323
Tru Niagen	500mg	Capsule	500	563

Tru Niagen® Counterfeit Product Results

In September and October 2024, ChromaDex analyzed the NR content of seven counterfeit Tru Niagen® products purchased from various unauthorized sellers (**Table 3**). All seven products were identified as counterfeit based on their packaging and appearance. Indicators of counterfeit status included the use of plastic bottles, flip-top caps, multiple label misspellings, yellow powder in the capsules, missing bottle seals or cotton filler, the usage of outdated and out-of-market lot numbers, and other inconsistencies.

Of the seven counterfeit Tru Niagen® products tested:

- Five samples contained no detectable NR.
- One sample had NR below the reporting limit (<1% of the label claim).
- One sample contained NR at 90% of the label claim but exhibited potential degradation, evidenced by elevated nicotinamide levels. This suggests poor stability, likely due to low-quality ingredients, improper formulation, and/or inadequate packaging.

Further investigation of one counterfeit product that lacked detectable NR revealed, via Nuclear Magnetic Resonance (NMR) analysis, the presence of substantial amounts of maltodextrin—an ingredient not listed on the label. While maltodextrin is a common excipient in dietary supplements, its undeclared presence poses potential risks, particularly for individuals with conditions such as diabetes.

Table 3. Analysis Results for Counterfeit Tru Niagen® 300 mg Products	
Reseller Name	Result (mg NR/serving)
The Wellness Place	271
All Stars Mega Mart	ND
Marketing Solutions FL	BRL
Mighty Five LLC	ND
KNKHZ	ND
SELLSMART LLC	ND
TrillionlyTech LLC	ND
BRL – Below Reporting Limit; ND – Not Detected Reporting Limit – 1% or less of label claim.	

Conclusions

Laboratory testing of commercially available NR supplements revealed significant variability in product quality and consistency. This study underscores the need for diligent consumer awareness in the NR marketplace. While a small portion of NR products meet their label claims, 84% do not, with high-water-content and liposomal formats being particularly problematic. This analysis did not assess whether the tested products may be infringing on owned or licensed patents. That analysis will be provided in a subsequent update.

The NR serving provided in many of these products were revealed to be below label claims and would likely impart no clinical benefit to the consumer. Furthermore, some of the top-selling NR products were shown to be grossly and continuously misrepresenting the NR content in their product. Products which are misbranded could also pose a risk to consumers because the actual ingredients are not properly disclosed.

Of note, all five tested products containing Niagen® branded nicotinamide riboside chloride—two from Tru Niagen® and three from Niagen Bioscience, Inc. partners—met their label claims. Consumers of Tru Niagen® should exercise caution and verify that the seller is Tru Niagen® when purchasing from online retailers such as Amazon, eBay, and Walmart. Products offered by unauthorized sellers may be counterfeit, lack third-party testing, often may not meet label claims, and are likely to be of very poor quality.

Legitimate Tru Niagen® products created by ChromaDex are meticulously formulated, manufactured, internally tested, and third-party tested/validated by Alkemist Assured and NSF Certified for Sport to ensure the highest quality and stability of NR throughout the product's shelf life when stored properly. Tru Niagen® is protected by a robust portfolio of over 60 owned and licensed patents worldwide.

Consumers should verify the authenticity of their product by checking for the Niagen® trademark and purchasing through authorized retailers. Every Tru Niagen® product can be authenticated by its



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Certificate of Analysis which can be found on truniagen.com/pages/quality, which showcases ChromaDex's commitment to quality and thorough testing. This is the only way to verify that the product is safe to consume and indeed meets label claims for NR content.