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

March 2026

Executive Summary

Seventy nicotinamide riboside (NR)-containing consumer products were tested for NR potency. None of these 70 products were formulated with Niagen® brand nicotinamide riboside, the only form of NR supported by a robust and enforceable intellectual property portfolio.

- 16 products had NR content at or above the label claim ($\geq 100\%$ label claim).
- 10 products had NR content just below label claim (90-99% of label claim).
- 23 products had NR content well below the label claim (1-89% of label claim).
- 21 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).

In contrast, all of the five consumer products formulated with Niagen® nicotinamide riboside chloride tested met their label claims, demonstrating consistent quality and formulation integrity.

These findings highlight a significant quality and credibility gap within the broader NR marketplace. Notably, all NR products that do not use Niagen® ingredient operate outside established intellectual property protections for NR, raising concerns regarding legitimacy, manufacturing rigor, and consumer trust. According to this study, approximately one third of NR products without Niagen® contain little to no NR, and 60% contain significantly less NR than stated on the label.

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.

Counterfeit Tru Niagen® products are highly likely to be of poor quality. Legitimate Tru Niagen® products, by contrast, are manufactured to the highest quality standards and consistently meet label claims throughout their shelf life when stored as directed.

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 seventy 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 been found on online marketplaces such as Walmart, Amazon and eBay. The 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 March 2021 and February 2026, seventy 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 70 products were formulated with Niagen® brand nicotinamide riboside.

- Only 23% of products tested (16 of 70 products) met or exceeded the NR label claim.
- 14% (10 products) contained NR within 90-99% of label claim.
- 63% (44 products) had NR levels significantly below label claims, with:
 - 33% (23 products) having NR content well below the label claim (1-89% of label claim).
 - 30% (21 products) having less than 1% of label claim NR present. Fifteen 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 or nicotinamide riboside tartrate. However, many products were improperly labeled as nicotinamide riboside, without a designation for the counterion. For assay calculations, the products lacking a counterion designation were treated as if they contained nicotinamide riboside chloride.

- Of the 43 products that did designate a counterion (chloride, malate, or tartrate), 50% met or were within 10% of label claim.
- Of the 27 products without a counterion designation, only 20% met or were within 10% of label claim.

A variety of product formats were included in the study, such as bulk powders, capsules, tablets, softgels, gummies, soft chews, patches, and liquids. Products with high water content, such as gummies, soft chews, patches (which may require the active ingredient to be dissolved in the patch matrix) and liquids, consistently showed very low NR levels due to NR's known instability in the presence of water. In addition, NR's water solubility prevents formulation in oil-based softgels.

- All 6 high-water-content products (gummies, soft chews, patches, liquids) analyzed contained less than 1% of the labeled NR.
- All 6 softgels analyzed contained less than 1% of the labeled NR.
- All four products with the highest claimed dosage of 1500 mg NR were softgels and had no detectable NR.

Eighteen of the 70 products advertised their ingredients as liposomal NR, spanning capsules, softgels, and tablets. The results revealed:

- Eight liposomal products contained less than 1% of the labeled NR amount.
- Nine liposomal products, including four from Reus Research, had NR content well below label claim (1-89% of label claim)
- Only one product advertised as liposomal met label claim

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.

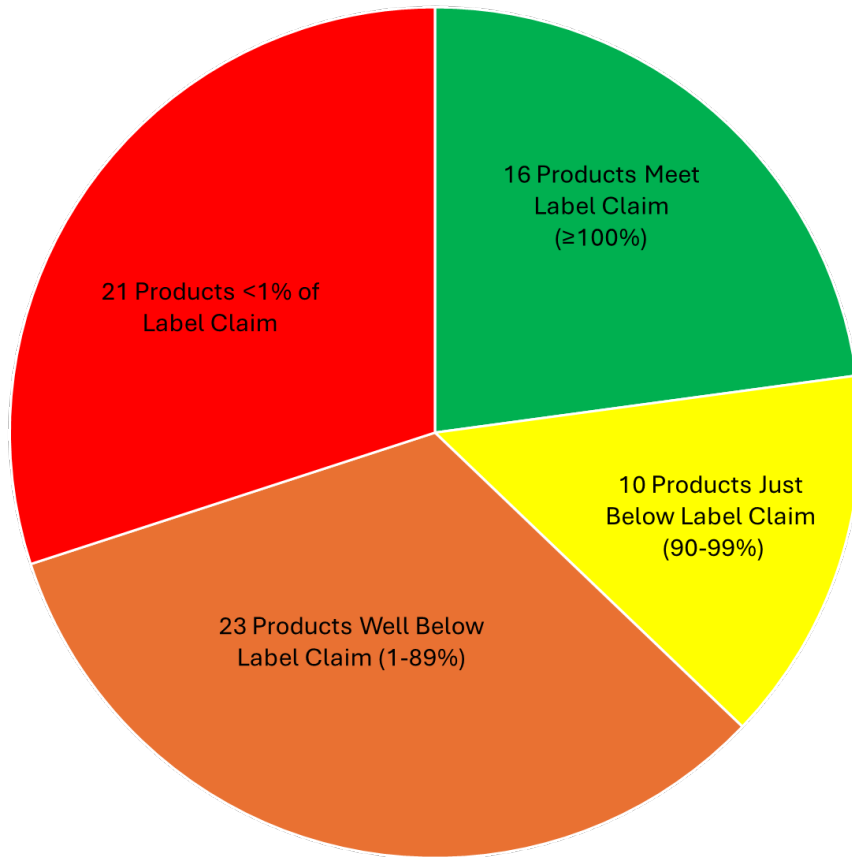


Figure 1: Results from quantitative analysis of seventy commercial NR products

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)	Test Date
AbinoNutra	NAD+	Capsule	500	381	Jul 2025
Advanced Bionetix	NAD+	Capsule	415	133	Sep 2023
Aesticum	Liposomal Nicotinamide Riboside 2000MG	Softgel	1500	ND	Sep 2023
Alora Naturals	Nicotinamide Riboside	Capsule	300	244	Dec 2023
Aquifoly	Liposomal NR 1500MG	Softgel	1500	ND	Sep 2023
barriere	Youth Repair clean NAD+	Patch	9	ND	Sep 2025
bioimmune	Liposomal NAD+	Capsule	415	209	Sep 2025
Black Forest	Nicotinamide Riboside 900mg	Capsule	900	896	Nov2024
Blueprint	Essential Capsules	Capsule	300	235	Apr 2024
BODHE	SUPREME	Capsule	300	96	Apr 2025
Boops Pets	Longevity and Anti-Aging	Soft Chew	120	BRL	Feb 2026
California Gold Nutrition	Nicotinamide Riboside Tartrate	Capsule	250	162	Aug 2025
Cellulim	Anti-aging Spirit NR 500mg	Capsule	500	BRL	Dec 2023
Cognitune	NR + Resveratrol	Capsule	300	284	Dec 2023
Designs For Health	Cell Guard-NR	Capsule	300	316	Apr 2025
Designs For Health	Mito-NR	Capsule	300	295	Jan 2026
Double Wood	Nicotinamide riboside	Capsule	500	552	Sep 2025
Elysium Health	Basis	Capsule	250	261	Jan 2025
Elysium Health	Cofactor	Powder	250	305	May 2025
Eterna	Eternity NAD+ & Cellular Longevity	Capsule	300	ND	Mar 2024
Eternal Life Laboratory	Longevity Blend #1	Capsule	250	288	Jan 2025
GENEX	NR 500	Capsule	500	483	Dec 2025
GENEX	NR	Capsule	300	274	Sep 2023
Genuine Purity	Liposomal Nicotinamide Riboside	Capsule	300	712	Dec 2025
Genuine Purity	Nicotinamide Riboside	Capsule	300	498	Jul 2024
GriMed	Resveratrol	Capsule	200	ND	Mar 2024
Happy Aging	Longevity Shot NAD+ Support	Liquid	100	BRL	Nov 2024
Health Thru Nutrition	NR+PQQ	Capsule	300	250	Apr 2024
High Quality	NAD+ Nicotinamide Riboside Chloride	Capsule	500	BRL	Dec 2023
Hi-Tech Pharmaceuticals	Liposomal NAD+ Nicotinamide Riboside	Tablet	250	52	Sep 2024
HONE	Longevity	Capsule	300	320	Sep 2025

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)	Test Date
HOP Box	Longevity- Hourglass Tipper	Capsule	250	121	May 2025
inGreens	Liposomal NAD+ 1800MG	Softgel	200	1	Mar 2024
inGreens	Liposomal NAD+ 1800MG	Softgel	200	ND	Feb 2026
Lovita	NR	Capsule	350	292	Sep 2023
MD Process	Mitothrive	Capsule	300	398	Aug 2025
MitoQ	NAD+ Dual Action	Capsule	150	153	Oct 2025
Mt. Angel Vitamins	NMN + NR	Capsule	200	230	Sep 2025
NatureNewborn	NAD+ Booster	Capsule	500	475	Feb 2026
Neurogan	Nicotinamide Riboside Drops	Liquid	125	ND	Sep 2023
Neurogan	Nicotinamide Riboside Gummies	Gummy	500	ND	Sep 2023
Neurogan	NR PRO	Capsule	900	292	Dec 2023
noocube	NAD+	Capsule	250	244	Oct 2025
Orgabay	Liposomal Nicotinamide Riboside	Softgel	1500	ND	Mar 2023
partiQlar	PURE NR	Capsule	350	312	Jul 2024
Plantanium	NR	Capsule	1000	264	Dec 2023
Prescribed For Life	Nicotinamide Riboside Chloride	Powder	250	244	Dec 2023
Probase Nutrition	NR	Capsule	500	501	Sep 2023
ProHealth Longevity	NR Plus Pterostilbene	Capsule	250	389	Jun 2025
Renue By Science	LIPO NR	Capsule	300	69	Feb 2026
Renue By Science	NR 1000	Capsule	1000	989	Jun 2024
Renue By Science	NR 1000	Capsule	1000	968	Mar 2025
Renue By Science	NAD+ Complete	Capsule	100	71	Jun 2025
Reus Research	Liposomal NAD+ Nicotinamide Riboside + Resveratrol 900mg	Capsule	500	30	Sep 2024
Reus Research	NAD+ Nicotinamide Riboside + Resveratrol 900mg	Capsule	500	33	Jan 2025
Reus Research	NR 500mg	Capsule	500	47	Sep 2023
Reus Research	NR 500mg	Capsule	500	11	Dec 2023
Rokit America	NR + Glutathione	Capsule	300	BRL	Dec 2023
Shizam	World's First Gummies	Gummy	250	ND	Sep 2023
Synchronicity	NAD+ Booster	Capsule	750	ND	Apr 2025
Theralogix	OvaNAD+	Capsule	415	305	Feb 2026
Thorne	NiaCel 400	Capsule	415	475	Mar 2021
Thorne	ResveraCel	Capsule	415	425	Nov2021
Vantein	Liposomal Nicotinamide Riboside 1500 MG	Softgel	1500	ND	Dec 2023
Vetvittles	RESET (pet product)	Capsule	45	17	Dec 2023
Vitasave	NiaMax NAD+	Capsule	300	232	May 2025

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)	Test Date
The Wellness Company	Longevity	Capsule	300	362	Sep 2025
WindBoss	Liposomal Nicotinamide Riboside	Capsule	500	ND	Sep 2025
Yeaut	Liposomal Nicotinamide Riboside Capsule	Capsule	500	ND	Feb 2025
ZENUP Research	NAD+ Nicotinamide Riboside 1100mg	Capsule	600	ND	Apr 2025

BRL – Below Reporting Limit (1% or less of label claim); 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)	Test Date
Life Extension	NAD+ Cell Regenerator & Resveratrol Elite	Capsule	300	405	Feb 2025
Pure Encapsulations	NR Longevity	Capsule	300	330	Jun 2025
QUALIA	NAD+	Capsule	300	327	Mar2025
Tru Niagen	300mg	Capsule	300	323	Jan 2025
Tru Niagen	500mg	Capsule	500	563	Jan 2025

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.

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, 77% do not. The most problematic categories included alternative product formats such as softgels, liquids, gummies, patches, and soft chews; products that failed to specify their NR counterion; and products marketed as liposomal.

While Niagen Bioscience Inc. holds a robust patent portfolio around Niagen nicotinamide riboside, 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.

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Legitimate Tru Niagen® products created by Niagen Bioscience, Inc. are meticulously formulated, manufactured, internally tested, and third-party tested/validated 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 Certificate of Analysis which can be found on truniagen.com/pages/quality, which showcases Niagen Bioscience'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.