NMN Global Compliance Progress Report

Data Cutoff:
MAY 2026 · Based on official releases and authoritative industry reports

4UNUTRA

2026

www.4unutra.com

Email:info@4unutra.com

Tel: +86 0898 6537 8036

Phone:+86 193 8998 4020

4Unutra(Hainan) Co., Ltd

No.181 Xingyang Avenue, Jiangdong New District,Haikou,Hainan, China

Table of Content

01. NMN Basic Introduction
02. NMN Research and Development
03. NMN Applications and Suitable Populations
04. NMN production process and the effect of oral NMN on NAD
05. Overview of Global Compliance Status of NMN

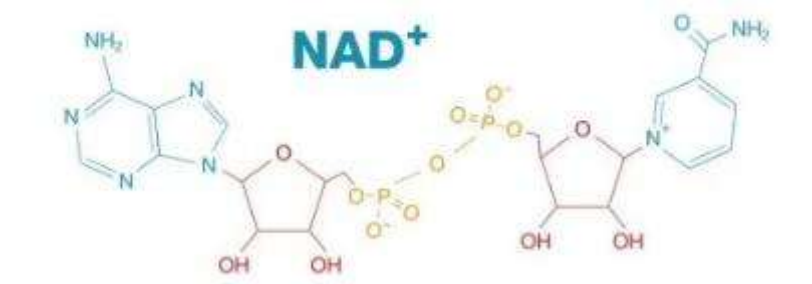
01. NMN Basic Introduction

NMN

NMN (Nicotinamide Mononucleotide), also known as β-nicotinamide mononucleotide, is a naturally occurring substance in the human body. Because nicotinamide belongs to vitamin B3, NMN falls under the category of B vitamin derivatives. It participates extensively in many biochemical reactions in the human body and is closely related to immunity and metabolism.

In the human body, it is a precursor to the synthesis of NAD+ (the oxidized form of nicotinamide adenine dinucleotide; NAD+ is known as a coenzyme for cellular "energy currency," participating in over 500 enzymatic reactions and responsible for 95% of cellular energy conversion). Its physiological functions are mainly manifested by increasing NAD+ levels.
With age, the body's NAD+ levels decline by about half every 20 years, leading to many age-related problems. Increasing NAD+ levels can alleviate aging, but exercise and diet alone cannot meet the required levels.

NMN is a chiral compound, with α and β isomers; the β isomer is the active form of NMN, with a molecular weight of 334.221 g/mol. βNMN is the form that produces positive effects in the human body.



02. NMN Research and Development

1931: Chemists Conrad and Elvidgem discovered that niacin is a precursor to NAD+ and can treat pellagra.

1959: French scientists, using extracts from hen kernels, discovered that coenzyme I can be broken down into nicotinamide and ADP-ribose, elucidating its mechanism of participation in DNA repair.

1963: Chambon, Weill, and Mandel discovered that NMN can provide the cellular energy needed to activate ribozymes, greatly enhancing the activity of DNA-dependent enzymes.

2013: Harvard Medical School Professor David Sinclair published groundbreaking research in Cell, showing that NMN supplementation extended the lifespan of mice by nearly 30%, attracting global attention.

2017: Japan conducted a Phase 2 clinical trial (lasting one and a half years), which was the first clinically confirmed that NMN taken by humans has an anti-aging effect.

2018 to present: The global NMN industrialization and commercialization process has accelerated, the Chinese market has seen active cross-border import channels, and Japan, the United States, Australia and other regions have successively promoted compliance.

03. NMN Applications and Suitable Populations

NMN Applications

β-NMN is a substance found within the body's cells. It has a high safety profile as a drug or health supplement. Furthermore, NMN is a monomer molecule, which has significant efficacy and is easily stabilized. It is mainly used in anti-aging food and health supplements.

- *Reverses aging
- * Activates longevity proteins
- * Increases NAD levels
- * Activates the immune system
- * Protects the cardiovascular system
- * Protects brain neurons

NMN Suitable Populations

1. For the elderly, to assist in improving various age-related diseases;
2. For middle-aged people, to eliminate or alleviate various sub-health problems, such as chronic fatigue, poor sleep, and declining vision;
3. For those who stay up late, to accelerate bodily recovery;
4. For test takers, to improve stress resistance and maintain mental clarity;
5. For those with high radiation doses, such as radiologists, nurses, and flight crew members, to enhance the repair ability of genes damaged by radiation;
6. For cancer patients, to help repair genes, improve immunity, and accelerate physical recovery after radiotherapy and chemotherapy.

7. Fitness enthusiasts: Accelerates muscle growth;

8. Athletes: Boosts energy levels and reaction speed;

9. Drinkers: Improves alcohol metabolism, protects the liver, and repairs genes damaged by acetaldehyde toxicity;

10. Smokers: Reduces nicotine cravings;

11. Depressed individuals: Increases dopamine levels, improves mood, increases blood flow to the brain, and alleviates cognitive decline caused by depression;

12. Middle-aged and elderly women: Improves skin health and slows down skin aging;

13. Others who may have low levels of coenzyme I.

04. NMN production process and the effect of oral NMN on NAD

NMN production process

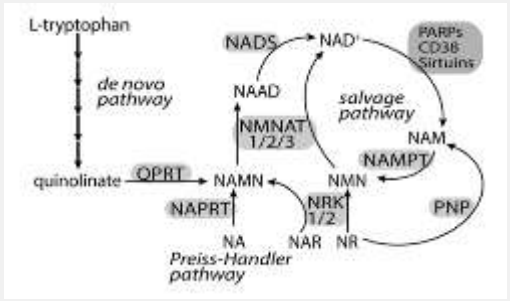
Currently, there are two methods for synthesizing NMN: enzymatic catalysis and chemical synthesis.

Enzymatic catalysis: This method involves cell lysis, offering high safety, efficiency, and purity. However, it is costly.

Chemical synthesis: The advantage of chemically synthesized NMN is its low cost, but it is prone to producing byproducts, leading to side effects and the problem of chemical residues.

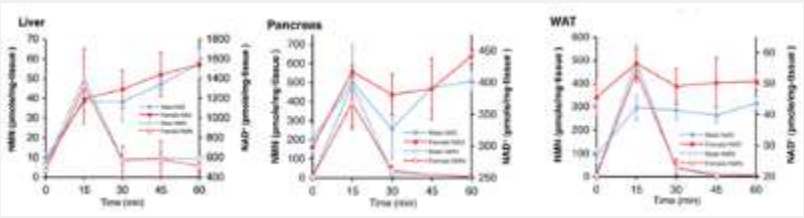
Oral NMN promotes NAD+ ionization.

In the salvage synthesis pathway, nicotinamide riboside (NR) or nicotinamide (NAM) is converted into nicotinamide mononucleotide (NMN) via NRK (nicotinamide nucleoside kinase) or NAMPT, NMNAT. NMN is then converted into NAD+ via NMNAT1-3 enzymes.



PNP: Purine nucleoside phosphorylase; NRK: Nicotinamide nucleoside kinase; QPRT: Quinolinate phosphoribosyltransferase; NAPRT: Nicotinate phosphoribosyltransferase; NAMPT: Nicotinamide phosphoribosyltransferase; NMNAT: Nicotinamide mononucleotide adenosyltransferase

Although NMN with its complete structure could not be detected in serum, oral administration of NMN still rapidly (within 15 minutes) increased NAD+ levels in both female and male mice.



05. Overview of Global Compliance Status of NMN

001 EU

Milestone Progress: EFSA releases its safety assessment conclusions on May 11, 2026.

On May 11, 2026, the European Food Safety Authority (EFSA) issued a safety assessment report on the application for a novel food product, nicotinamide mononucleotide (NMN), submitted by Yinfu Pharmaceutical Technology (Shanghai) Co., Ltd.

EFSA certified: 300mg of synthetic β-NMN daily is safe for ordinary adults, marking a key step towards nationwide market launch.

NMN is intended for use in dietary supplements, with a maximum dose of 300 mg/day, equivalent to 109.7 mg of nicotinamide/day. It is suitable for adults, excluding pregnant and breastfeeding women.

Yinfu NMN Application Timeline

time	Declaration status
August 23, 2023	Yin Fu submitted the application file
April 4, 2024	EC acceptance
April to November 2024	EFSA begins security assessment
March 4, 2026	The EFSA expert panel adopted the assessment recommendations
May 11, 2026	EFSA releases security assessment report

NMN has passed the safety assessment by the European Food Safety Authority (EFSA), and the next step is the risk management assessment by the European Commission (EC). If the EC does not raise any objections, NMN will obtain formal compliant food safety status in the EU.

EU NMN novel food application status

EFSA-Q-2022-00310	LGD	2022.05.11	(2025.09.29)
EFSA-Q-2023-00552	Yinfu Pharmaceutical Technology (Shanghai) Co., Ltd. August 22, 2023		
EFSA-Q-2024-00099	Hackshot s.r.o.	2024.02.16	(2024.09.13)
EFSA-Q-2024-00420	Shanghai Biomedical (Shanghai) Ltd.	2024.06.26	EFSA safety assessment
EFSA-Q-2025-00116	Borealis Pharma Manufacturing B.V.	2025.01.28	EFSA safety assessment
EFSA-Q-2025-00487	Ralph Bushman	2025.08.21	EFSA has received the new file

As of May 14, 2026, the EU has received six applications for NMN as a novel food product.

05. Overview of Global Compliance Status of NMN

002 Global Compliance Progress

Country/ Region	Compliance Status	Approval/Application Path	Permissible dose	Latest progress time
USA	✅ Dietary supplements	NDI Notification Path (Case-by-Case Approval)	**The NDI application clearly states**	Policy reversal in September 2025
Japan	✅ Functional labeling foods	Registration of functional food labels	—	13 models registered between 2023 and 2025
Australia	✅ Supplementing drug ingredients	TGA Approval	**≤500 mg/day**	Approved in December 2025
Canada	✅ Natural health products	NHPID Management	**≤1,200 mg/day**	Established
EU	🔄 Security assessment completed	New food application	**The maximum dose for application is 300 mg/day.**	EFSA Safety Opinion, May 2026
China	❌ Unapproved (food sector)	Applications for new food additive varieties are underway.	—	Accepted in January 2025
U.K.	🔄 Under supervision	FSA regulation	—	—

Note: A US NDI notification does not equate to industry-wide approval. Each raw material supplier or brand owner must submit an individual NDI notification and obtain a "no objection letter" before legally selling in the US. Markets such as the EU, Australia, and Canada also have their own access approval mechanisms, requiring companies to complete compliance declarations for each target market.