

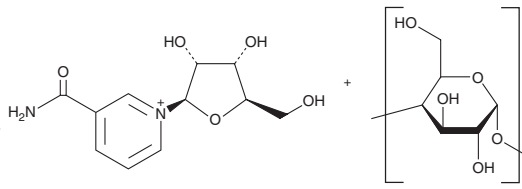
PRODUCT INFORMATION



Nicotinamide riboside

Item No. 23132

CAS Registry No.: 1341-23-7
Formal Name: 3-(aminocarbonyl)-1-β-D-ribofuranosyl-pyridinium
MF: C₁₁H₁₅N₂O₅
FW: 255.3
Purity: ≥95%
Contains ~80% cyclodextrin as stabilizer
Supplied as: A semi-solid
Storage: -20°C
Stability: ≥2 years
Special Conditions: Low melting



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Nicotinamide riboside is supplied as a low melting semi-solid. A stock solution may be made by dissolving the nicotinamide riboside in water. We do not recommend storing the aqueous solution for more than one day.

Description

Nicotinamide riboside is a riboside form of nicotinamide (Item No. 11127) that is found in trace amounts in yeast-containing and milk-derived products.¹ It is a precursor of NAD⁺ (Item No. 16077) and a source of vitamin B₃ (niacin). Nicotinamide riboside increases intracellular and mitochondrial NAD⁺ content in C2C12, Hepa1.6, and HEK293 cells in a concentration-dependent manner at concentrations ranging from 1-1,000 μM.² It also decreases acetylation of FOXO1 and SOD2, which are substrates of sirtuin 1 (SIRT1) and SIRT3, respectively, but not the SIRT2 substrate tubulin, indicating nicotinamide riboside selectively enhances SIRT1 and 3 deacetylase activity. Nicotinamide riboside (400 mg/kg per day) increases NAD⁺ levels in liver and skeletal muscle and prevents body weight gain in mice fed a high-fat diet. It also increases NAD⁺ in the cerebral cortex and reduces cognitive deterioration in a transgenic mouse model of Alzheimer's disease.³

References

1. Chi, Y. and Sauve, A.A. Nicotinamide riboside, a trace nutrient in foods, is a vitamin B3 with effects on energy metabolism and neuroprotection. *Curr. Opin. Clin. Nutr. Metab. Care* **15(6)**, 657-661 (2013).
2. Cantó, C., Houtkooper, R.H., Pirinen, E., *et al.* The NAD⁺ precursor nicotinamide riboside enhances oxidative metabolism and protects against high-fat diet-induced obesity. *Cell Metab.* **15(6)**, 838-847 (2012).
3. Gong, B., Pan, Y., Vempati, P., *et al.* Nicotinamide riboside restores cognition through an upregulation of proliferator-activated receptor-γ coactivator 1α regulated β-secretase 1 degradation and mitochondrial gene expression in Alzheimer's mouse models. *Neurobiol. Aging* **34(6)**, 1581-1588 (2013).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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