

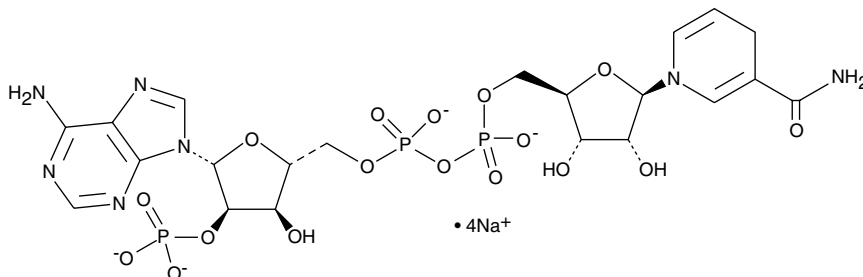
Product Information



NADPH (sodium salt)

Item No. 9000743

CAS Registry No.: 2646-71-1
Formal Name: P'→5'-ester with 1,4-dihydro-1-β-D-ribofuranosyl-3-pyridinecarboxamide 2'-(dihydrogen phosphate) adenosine 5'-(trihydrogen diphosphate) sodium salt
Synonym: Nicotinamide adenine dinucleotide phosphate
MF: C₂₁H₂₆N₇O₁₇P₃ • 4Na
FW: 833.4
Purity: ≥95%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid



Laboratory Procedures

For long term storage, we suggest that NADPH (sodium salt) be stored as supplied at -20°C. It should be stable for at least two years.

NADPH (sodium salt) is supplied as a crystalline solid. Aqueous solutions of NADPH (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of NADPH (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

NADPH is the reduced form of the electron acceptor nicotinamide adenine dinucleotide phosphate (NADP⁺) and acts as an electron donor in various biological reactions. In plants, NADPH is produced by ferredoxin-NADP⁺ reductase in the last step of the electron chain during photosynthesis. In animals it is predominantly produced by the pentose phosphate pathway, but it is also generated by key mitochondrial enzymes. NADPH provides the reducing equivalents for biosynthetic reactions and the oxidation-reduction involved in protecting against the toxicity of reactive oxygen species.¹⁻³ It is also used for the synthesis of lipids and cholesterol and during the process of fatty acid chain elongation.⁴

References

1. Sumimoto, H. Structure, regulation and evolution of Nox-family NADPH oxidases that produce reactive oxygen species. *FEBS J.* **275**, 3249-3277 (2008).
2. Sutherland, M.W., Nelson, J., Harrison, G., *et al.* Effects of t-butyl hydroperoxide on NADPH, glutathione, and the respiratory burst of rat alveolar macrophages. *Arch. Biochem. Biophys.* **243**, 325-331 (1985).
3. Nauseef, W.M. Biological roles for the NOX family NADPH oxidases. *J. Biol. Chem.* **283(25)**, 16961-16965 (2008).
4. Tserng, K.-Y. and Jin, S.-J. NADPH-dependent reductive metabolism of *cis*-5 unsaturated fatty acids. A revised pathway for the β-oxidation of oleic acid. *J. Biol. Chem.* **266**, 11614-11620 (1990).

Related Products

For a list of related products please visit: www.caymanchem.com/catalog/9000743

WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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Cayman Chemical Company makes **no warranty or guarantee** of any kind, whether written or oral, expressed or implied, including without limitation, any warranty of fitness for a particular purpose, suitability and merchantability, which extends beyond the description of the chemicals hereof. Cayman **warrants only** to the original customer that the material will **meet our specifications at the time of delivery**.

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