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Produktinformation

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- Diagnostik & molekulare Diagnostik
- Laborgeräte & Service

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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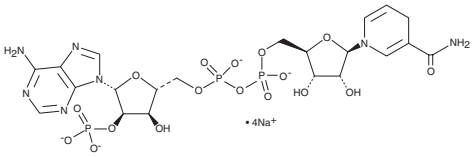
PRODUCT INFORMATION

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: $C_{21}H_{26}N_7O_{17}P_3 \bullet 4Na$
FW: 833.4
Purity: ≥95%
UV/Vis.: λ_{max}: 258, 336 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

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.

Description

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 is it predominantly produced by the pentose phosphate pathway, but 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(13)**, 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 machrophages. *Arch. Biochem. Biophys.* **243(2)**, 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(18)**, 11614-11620 (1990).

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