

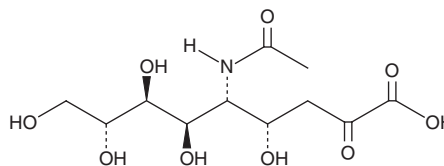
PRODUCT INFORMATION



N-Acetylneuraminic Acid

Item No. 16091

CAS Registry No.: 131-48-6
Formal Name: N-acetyl-neuraminic acid
Synonyms: NANA, Neu5Ac
MF: C₁₁H₁₉NO₉
FW: 309.3
Purity: ≥98%
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

N-Acetylneuraminic acid (NANA) is supplied as a crystalline solid. A stock solution may be made by dissolving the NANA in the solvent of choice, which should be purged with an inert gas. NANA is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of NANA in these solvents is approximately 1 and 0.1 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of NANA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of NANA in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Salic acids are nine-carbon carbohydrate α -keto acids that have many important biological functions, including cell-cell recognition and host-pathogen interactions.^{1,2} NANA is the most abundant sialic acid and is found in bacteria as well as in eukaryotic cells.^{1,3} The pathways for NANA synthesis and metabolism in bacteria differ from those used in eukaryotic cells.³ This sialic acid is an essential component of human brain gangliosides and sialylated glycoproteins.⁴

References

1. Alley, W.R., Jr. and Novotny, M.V. Structural glycomic analyses at high sensitivity: A decade of progress. *Annu. Rev. Anal. Chem (Palo Alto Calif.)*. **3**, 237-265 (2013).
2. Kelm, S., Schauer, R., and Crocker, P.R. The Sialoadhesins - A family of sialic acid-dependent cellular recognition molecules within the immunoglobulin superfamily. *Glycoconjugate J.* **13(6)**, 913-926 (1996).
3. Li, Y. and Chen, X. Sialic acid metabolism and sialyltransferases: Natural functions and applications. *Appl. Microbiol. Biotechnol.* **94(4)**, 887-905 (2012).
4. Wang, B. Molecular mechanism underlying sialic acid as an essential nutrient for brain development and cognition. *Adv. Nutr.* **3(3)**, 465S-472S (2012).

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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