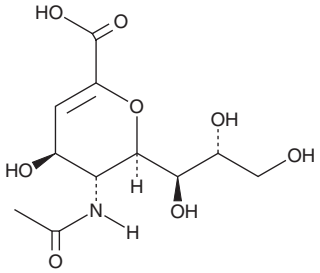
PRODUCT INFORMATION

N-acetyl-2,3-dehydro-2-Deoxyneuraminic Acid

Item No. 19939

CAS Registry No.: 24967-27-9
Formal Name: 5-(acetylamino)-2,6-anhydro-3,5-dideoxy-D-glycero-D-galacto-non-2-enonic acid
Synonym: DANA
MF: $C_{11}H_{17}NO_8$
FW: 291.3
Purity: ≥95%
UV/Vis.: λ_{max}: 243 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

N-acetyl-2,3-dehydro-2-Deoxyneuraminic acid (DANA) is supplied as a crystalline solid. A stock solution may be made by dissolving the DANA in the solvent of choice, which should be purged with an inert gas. DANA is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of DANA 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 DANA can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of DANA in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

DANA is an inhibitor of human neuraminidases (sialidases) NEU1-4 (IC_{50}s = 143, 43, 61, and 74 µM, respectively).[1] *In vivo*, DANA (30 µl of a 5 mM solution) reduces latency to first seizure and increases seizure duration in a rat model of potassium-induced seizures.[2]

References

1. Magesh, S., Moriya, S., Suzuki, T., *et al.* Design, synthesis, and biological evaluation of human sialidase inhibitors. Part 1: Selective inhibitors of lysosomal sialidase (NEU1). *Bioorg. Med. Chem. Lett.* **18(2)**, 532-537 (2008).
2. Isaev, D., Isaeva, E., Shatskih, T., *et al.* Role of extracellular sialic acid in regulation of neuronal and network excitability in the rat hippocampus. *J. Neurosci.* **27(43)**, 11587-11594 (2007).

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