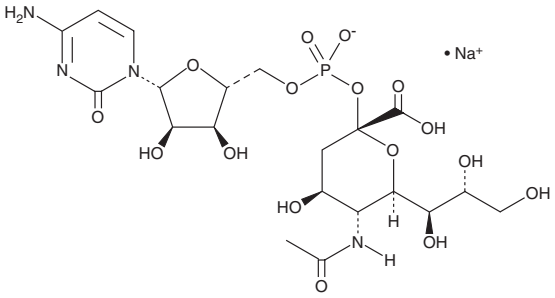
PRODUCT INFORMATION

CMP-Sialic Acid (sodium salt)

Item No. 16404

CAS Registry No.:	1007117-62-5
Formal Name:	N-acetyl-2-(hydrogen 5'-cytidylate)-β-neuraminic acid, monosodium salt
Synonym:	CMP-Neu5Ac
MF:	$C_{20}H_{30}N_4O_{16}P \bullet Na$
FW:	636.4
Purity:	≥85%
UV/Vis.:	λ_{max}: 274 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

CMP-Sialic acid (sodium salt) is supplied as a crystalline solid. Aqueous solutions of CMP-sialic acid (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of CMP-sialic acid (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

CMP-Sialic acid is a form of the sugar N-acetylneuraminic acid (Neu5Ac) O-linked with the nucleotide cytidine-5'-monophosphate (CMP). In vertebrates, it is biosynthesized within the nucleus from CTP and Neu5Ac by CMP-sialic acid synthetases.[1] Sialyltransferases transfer Neu5Ac from CMP-sialic acid to various acceptor substrates, most commonly at terminal positions of the oligosaccharide component of glycoproteins or glycolipids.[2,3] Sialic acid-containing glycans at the cell surface play important roles in cell interactions and have roles in infection, inflammation, and cancer.[3-5]

References

1. Münster-Kühnel, A.K., Tiralongo, J., Krapp, S., *et al.* Structure and function of vertebrate CMP-sialic acid synthetases. *Glycobiology* **14(10)**, 43R-51R (2004).
2. Tsuji, S. Molecular cloning and functional analysis of sialyltransferases. *J. Biochem.* **120(1)**, 1-13 (1996).
3. Audry, M., Jeanneau, C., Imberty, A., *et al.* Current trends in the structure-activity relationships of sialyltransferases. *Glycobiology* **21(6)**, 716-726 (2011).
4. Hennet, T. From glycosylation disorders back to glycosylation: What have we learned? *Biochim. Biophys. Acta.* **1792(9)**, 921-924 (2009).
5. Samraj, A.N., Läubli, H., Varki, N., *et al.* Involvement of a non-human sialic acid in human cancer. *Front. Oncol.* **4**, 33 (2014).

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