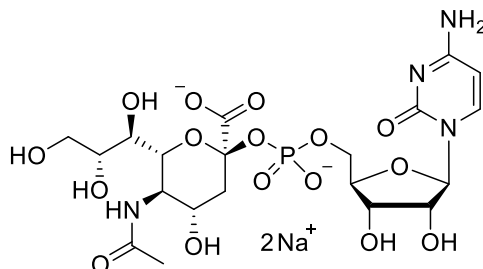


## Technical Information about CMP-Neu5Ac / CMP-NAN

Update: July 31, 2023ss



**Abbreviation:** CMP-Neu5Ac / CMP-NAN

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>20</sub> H <sub>31</sub> N <sub>4</sub> O <sub>16</sub> P (free acid)	[3063-71-6]	614.5 (free acid)	λ <sub>max</sub> 270 nm / ε 9000 / pH 7	C 408

**Name:** Cytidine- 5'- O- monophospho- N- acetylneuraminic acid, sodium salt / CMP-β-D- N-Acetylneuraminic acid / CMP-N-Acetylneuraminic acid / CMP-sialic acid

**Description:** CMP-Neu5Ac is a nucleotide sugar consisting of cytidine- 5'- O- monophosphosphate (CMP) and phosphate-bound N-acetylneuraminic acid, the latter being a sialic acid and an acidic monosaccharide with nine carbon atoms.

**Properties:** CMP-Neu5Ac is the essential substrate for sialyltransferases (SiaTs) in the synthesis of glycoconjugates. SiaTs have been utilized for the chemoenzymatic synthesis of glycosphingolipids and mucin-derived O-glycopeptides. Both are considered potential anti-cancer vaccines. Further application fields are the synthesis of glycan arrays for probing influenza virus strains, and Sialyl-Lewis blood group antigens as glycan binding epitopes of selectins.

**Specification:** Crystallized or lyophilized sodium salt. The free acid or other salt forms are available upon request. Please keep in mind that equal concentrations of the compound may look different in volume due to sensitivity of the lyophilized form to humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube. Micromolar quantities are determined by UV at λ<sub>max</sub>.

**Purity:** Typical analysis is better than 95% (HPLC / UV / 270 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** CMP-Neu5Ac has excellent solubility in water and aqueous buffers (≥ 20 mM, limits have not been determined). Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

**Stability and Storage:** CMP-Neu5Ac has limited stability at ambient temperature. Therefore, we recommend that the compound should be stored in the freezer (-20° Celsius necessary, -70° Celsius recommended), for longer storage periods preferably in freeze-dried form. If you will not use up the vial with one application, please aliquot the contents of the vial in order to avoid repeated freeze/thaw cycles for the rest. When making such aliquots be sure to operate quickly and to freeze the vial again as soon as possible.

**Toxicity and Safety:** Since CMP-Neu5Ac has multiple tasks in every organism, it is very likely that it will interfere with many cell regulation processes *in vivo*. However, due to the rather small quantities to work with, no health hazards have been reported. Nevertheless, please keep in mind, that the *in vivo* properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product.

Our products are designed, developed and sold for research purposes only! They are intended for *in vitro* and nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.

**Not for drug, household or related uses!**

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