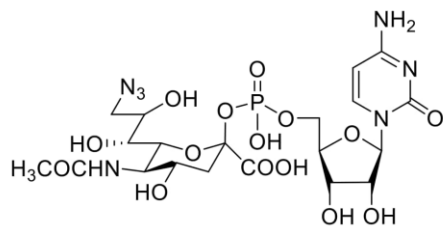


## Technical Product Information

<b>Product name</b>	CMP-C9-azido-sialic acid (ammonium salt)
<b>Synonyms</b>	Cytidine-5'-monophospho-N-acetyl-9-azido-9-deoxy-neuraminic acid; CMP-N-acetyl-9-azido-neuraminic acid; CMP-Neu5Ac9Az; CMP-C9AzNeu5Ac; CMP-9Az-Neu5Ac; CMP-9'-Az-Neu5Ac, CMP-Neu5Ac9N <sub>3</sub> (ammonium salt)
<b>CAS No.</b>	N/A
<b>Related CAS No.</b>	112037-53-3 (free acid)
<b>Formula</b>	C <sub>20</sub> H <sub>29</sub> N <sub>7</sub> O <sub>15</sub> PNH <sub>4</sub>
<b>Molecular weight</b>	656.51 g/mol
<b>Structure</b>	
<b>Other identifiers</b>	<p><b>Canonical SMILES:</b>  <chem>[N-]=[N+]=NCC(O)C(O)C1OC(OP(=O)(O)OCC2OC(N3C=CC(=NC3=O)N)C(O)C2O)(C(=O)O)CC(O)C1NC(=O)C</chem></p> <p><b>Isomeric SMILES:</b>  <chem>O(P(OC[C@H]1O[C@H]([C@H](O)[C@@H]1O)N2C(=O)N=C(N)C=C2)(=O)O)[C@]3(C(O)=O)O[C@@]([C@@H]([C@@H](CN=[N+]=[N-])O)O)O)[C@H](NC(C)=O)[C@@H](O)C3)[H]</chem></p> <p><b>InChI Key:</b>            YZOBTNKILRMMB-BILDWYJOSA-N</p>
<b>Description</b>	<p>CMP-Neu5Ac9N<sub>3</sub> is an advanced sialic acid nucleotide sugar analog featuring an azide group at the C9 position. The product is designed for research use in bioorthogonal, click-chemistry-based glycoengineering, and selective labeling of glycans.</p> <p><b>Key features:</b></p> <ul style="list-style-type: none"> <li>Enables highly selective enzymatic transfer by different sialyltransferases (e.g., ST6Gal1, bacterial 2,6SiaT, 2,3SiaT), allowing flexible application on diverse glycans.</li> <li>Incorporates a bioorthogonal azide handle for click chemistry reactions (e.g., conjugation of fluorophores, toxins, imaging agents, or affinity probes), without disrupting native glycan function.</li> <li>Applicable in both cell-based and <i>in vitro</i> glycoengineering settings.</li> </ul>
<b>Appearance</b>	Lyophilized white powder
<b>Purity</b>	≥ 95% (HPLC-UV). Product has not been tested for endotoxins.
<b>Storage</b>	At -20°C.

<b>Applications (Research Use Only)</b>	<b>Biotherapeutics &amp; Drug Conjugation</b> <ul style="list-style-type: none"><li>• Development of site-specific antibody-drug conjugate (ADC), peptide-drug conjugate (PDC), and glycoconjugate vaccine via selective glycan remodeling, enabling homogeneous drug attachment and optimized pharmacokinetics</li><li>• Generation of novel bioconjugates including labeled antibodies, engineered glycoproteins, or functionalized exosomes for targeted delivery or imaging studies.</li></ul> <b>Cellular and Molecular Biology:</b> <ul style="list-style-type: none"><li>• Live cell glycan labeling for imaging, proteomics, and flow cytometry using click chemistry with alkyne-modified probes.</li><li>• Mechanistic studies of glycosylation, glycan-protein interactions including Siglecs (Sialic acid-binding Immunoglobulin-like Lectins), and cell-surface glycan mapping.</li></ul> <b>Antimicrobial Prophylaxis:</b> <ul style="list-style-type: none"><li>• Investigational use as a topical agent for reducing pathogenic colonization (e.g., <i>N. gonorrhoeae</i>), with efficacy shown in preclinical mouse models.</li></ul> <b>Analytical Research:</b> <ul style="list-style-type: none"><li>• Exo-enzymatic glycan engineering of exosomes and nanoparticles for functionalization and delivery research.</li><li>• Sialoglycan spin labeling for structural biology and electron paramagnetic resonance (EPR) spectroscopy studies.</li></ul> <b>All applications listed above are intended exclusively for research use only and are not for use in diagnostic procedures.</b>
<b>Selected References</b>	<ol style="list-style-type: none"><li>1. Thames, A. H.; Moons, S. J.; Wong, D. A.; Boltje, T. J.; Bochner, B. S.; Jewett, M. C., GlycoCAP: A Cell-Free, Bacterial Glycosylation Platform for Building Clickable Azido-Sialoglycoproteins. <i>ACS Synth Biol</i> <b>2023</b>, <i>12</i> (4), 1264-1274.</li><li>2. Yang, G.-Y.; Li, C.; Fischer, M.; Cairo, C. W.; Feng, Y.; Withers, S. G., A FRET Probe for Cell-Based Imaging of Ganglioside-Processing Enzyme Activity and High-Throughput Screening. <i>Angew Chem Int Ed</i> <b>2015</b>, <i>54</i> (18), 5389-5393.</li><li>3. Mbuja, N. E.; Li, X.; Flanagan-Steet, H. R.; Meng, L.; Aoki, K.; Moremen, K. W.; Wolfert, M. A.; Steet, R.; Boons, G.-J., Selective Exo-Enzymatic Labeling of N-Glycans on the Surface of Living Cells by Recombinant ST6Gal I. <i>Angew Chem Int Ed</i> <b>2013</b>, <i>52</i> (49), 13012-13015.</li><li>4. Hosoguchi, K.; Maeda, T.; Furukawa, J.; Shinohara, Y.; Hinou, H.; Sekiguchi, M.; Togame, H.; Takemoto, H.; Kondo, H.; Nishimura, S., An efficient approach to the discovery of potent inhibitors against glycosyltransferases. <i>J Med Chem</i> <b>2010</b>, <i>53</i> (15), 5607-19.</li></ol>