

Product Information

$\alpha(2\rightarrow6)$ Sialyltransferase from *Photobacterium damsela*, recombinant expressed in *Escherichia coli* BL21(DE3)

Catalog Number **S2076**
Storage Temperature $-20\text{ }^{\circ}\text{C}$

EC 2.4.99.1

Synonyms: β -galactoside α -2,6-sialyltransferase,
CMP-*N*-Acetylneuraminate: β -D-galactosyl-1,4-*N*-acetyl- β -D-glucosamine α -2,6-*N*-acetylneuraminyltransferase

Product Description

$\alpha(2\rightarrow6)$ Sialyltransferase catalyzes the transfer of CMP-*N*-acetylneuraminate (CMP-sialic acid) to the β -D-galactosyl-1,4-*N*-acetyl-D-glucosaminyl termini on glycoproteins.

For the expressed *Photobacterium damsela* enzyme:

Molecular mass: 56.8 kDa

Isoelectric point (pI): 4.88

pH optimum for activity: 7.5–10.0

This product is lyophilized from a solution containing Tris-HCl buffer salts and NaCl.

Specific Activity: ≥ 5 units per mg protein

Unit Definition: One unit will catalyze the formation of 1.0 μmole of Neu-5-Ac- α -2,6-Lac-MU from CMP-Neu-5-Ac and Lac- β -O-MU per minute at $37\text{ }^{\circ}\text{C}$ at pH 8.0.

Enzymatic activity assays are performed in 100 mM Tris-HCl buffer, pH 8.0, containing CMP-Neu-5-Ac (1 mM) and Lac- β -O-MU (1 mM) at $37\text{ }^{\circ}\text{C}$ for 30 minutes and analyzed using HPLC with a fluorescence detector (excitation at 325 nm and emission at 372 nm).

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

Preparation Instructions

Reconstitute the lyophilized powder with water to $\sim 5\text{ mg/mL}$.

Solutions can be stored at $2\text{--}8\text{ }^{\circ}\text{C}$ for 1–2 months after reconstitution. They can also be aliquoted and frozen at $-70\text{ }^{\circ}\text{C}$ or $-20\text{ }^{\circ}\text{C}$ for 1 year. Multiple freeze-thaw cycles should be avoided.

Storage/Stability

Store the product at $-20\text{ }^{\circ}\text{C}$. It remains active for at least 1 year when stored properly.

References

1. Yu, H. et al., Highly efficient chemoenzymatic synthesis of naturally occurring and non-natural α -2,6-linked sialosides: a *P. damsela* α -2,6-sialyltransferase with extremely flexible donor substrate specificity. *Angew. Chem. Int. Ed.*, **45**, 3938–3944 (2006).
2. Sun, M. et al., N-terminal 112 amino acid residues are not required for the sialyltransferase activity of *Photobacterium damsela* α -2,6-sialyltransferase. *Biotechnol. Lett.*, **30**, 671–676 (2008).

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