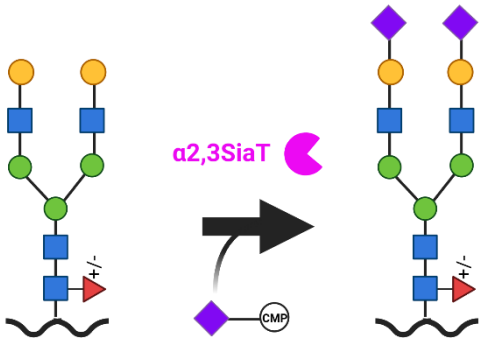
α2,3SiaT

alpha-2,3-sialyltransferase

- For research use only. Not for use in diagnostic procedures. -

Product description

This recombinant bacterial α-2,3-sialyltransferase (α2,3SiaT) is expressed in *E. coli* BL21(DE3) and is designed for sialylation of glycoproteins, glycolipids, and free glycans (including oligosaccharides). It catalyzes the transfer of sialic acid from CMP-Neu5Ac (or other CMP-Neu5Ac analogues) to terminal galactose residues in a α-2,3 linkage. Compared to other known α2,3SiaTs, this enzyme has suppressed hydrolytic activities, resulting in enhanced synthesis efficiency.



Unit definition (U) (standard enzyme unit): One unit is defined as the formation of 1 µmol Neu5Ac-α-2,3-lactose (3'SL) from 1 mM CMP-Neu5Ac and 1 mM lactose per minute at 37 °C and pH 8.0.

Enzymatic activity characterisation

- Donor substrate: CMP-Neu5Ac and CMP-Neu5Ac analogues
- Acceptor substrate: Glycans with terminal galactose
- Reaction conditions: pH 7.0 – 8.0; 20 – 37 °C
- Transferase activity: α-2,3-sialyltransferase
- Hydrolytic activity: Undetectable
- Sialidase activity: Undetectable

*α*2,3SiaT

alpha-2,3-sialyltransferase

Technical specifications

Parameter	Specification
Molecular weight	48 kDa
Expression host	*E. coli* BL21(DE3)
Purity	> 90 % (SDS-PAGE)
Purification tag	His-tag
Form	Lyophilized powder
Reconstitution	Mix 100–1000 µL deionized water per 1 mg lyophilized powder. Exchange buffer if needed
Store at	-20 °C

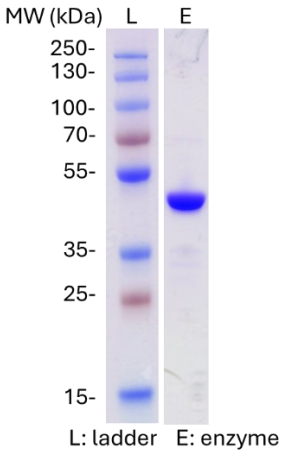


Figure 1: SDS-PAGE analysis of purified enzyme

Application examples

- For the sialylation of a wide range of glycans with galactose terminal: G2F, G2, Lewis a, Lewis x, lactose, LNT, LNnT, etc.
- For the sialylation of glycoproteins: Rituximab (in combination with β1,4-GalT), Erythropoietin (EPO) for terminal sialylation, Fc-fusion proteins for enhanced serum half-life
- Glycan arrays for binding studies

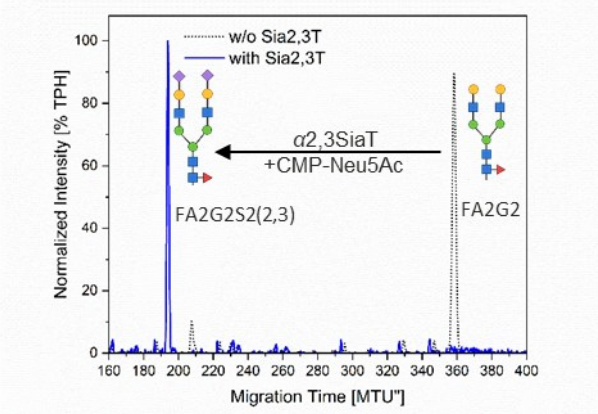


Figure 2: Activity test on G2F free *N*-glycan

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