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Product Information

**α -(2 $\rightarrow$ 3,6)-Neuraminidase, Positionally specific,
from *Clostridium perfringens*
expressed in *E. coli***

Product Number **N 5521**

Storage Temperature 2–8 °C

CAS[#] 9001-67-6

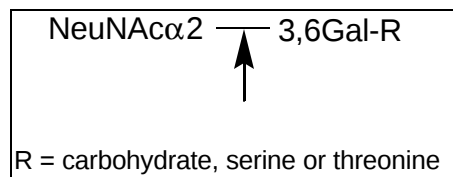
EC 3.2.1.18

Synonyms: Sialidase; N-Acetylneuraminidase;
N-Acetylneuraminate glycohydrolase

Product Description

Two major classes of oligosaccharides (glycans) may be attached to glycoproteins. N-Linked glycans are attached to the amide side chain of some asparagine (Asn) residues, which form part of the consensus sequence AsnXaaSer/Thr, while O-linked glycans may be added to the hydroxyl side-chain of serine or threonine residues. The terminal residues on these glycan chains are commonly N-acetylneuraminic acids (sialic acids). Neuraminidase can be used directly on intact glycoproteins or purified glycans as a gentle means of removing sialic acid.

Recombinant α -(2 $\rightarrow$ 3,6)-Neuraminidase from *Clostridium perfringens*, expressed in glycosidase-free *Escherichia coli*, is a highly purified enzyme, which hydrolyzes non-reducing, terminal α -2 $\rightarrow$ 3 and α -2 $\rightarrow$ 6 linked sialic acids from complex glycans and glycoproteins. The relative rate of cleavage of α -2 $\rightarrow$ 3 linkages is reported to be greater than that for α -2 $\rightarrow$ 6 linkages.^{1,2} Due to the selectivity of this enzyme, it is an useful reagent for detailed structural analysis of glycans when used in conjunction with other broader specificity neuraminidase enzymes.



Molecular weight: ~41 kDa

pH Range for activity: 4.5 – 7.0 (Optimal pH: 6.0)

Inhibitors: Thiol blockers and heavy metal ions (Hg²⁺, Fe³⁺)

Components

α -(2 $\rightarrow$ 3,6)-Neuraminidase (Product No. N 5521) - The enzyme is supplied in 20 mM Tris HCl, pH 7.5, containing 25 mM NaCl.

Unit Definition: One unit will hydrolyze 1 μ mole of 4-methylumbelliferyl α -D-N-acetylneuraminide per minute at pH 5.0 at 37 °C.

Protease activity was not detected.

5x Reaction Buffer (Product No. R 0266) – 250 mM sodium phosphate, pH 6.0

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.

Storage/Stability

It is recommended to store the product at 2–8 °C.
Do Not Freeze.

Procedure

1. Dispense 1 nmole of glycan or 100 μ g of glycoprotein into a tube.
2. Adjust final volume to 14 μ l with deionized water.
3. Add to this 4 μ l of 5x Reaction Buffer.
4. Then add 2 μ l of α -(2 $\rightarrow$ 3,6)-neuraminidase.
5. Cap the tube and incubate at 37 °C for 1 hour.

To hydrolyze larger amounts of substrate, increase the reaction volume and volume of enzyme proportionally.

References

1. Corfield, A.P., *et al.*, Biochem. Biophys. Acta., **744**, 121 (1983).
2. Roggentin, P.B., *et al.*, FEBS Lett., **238**, 31 (1988).
3. Dwek, R.A., *et al.*, Ann. Rev. Biochem., **62**, 65 (1993).
4. Kobata, A., Anal. Biochem., **100**, 1 (1979).
5. Prime, S., *et al.*, J. Chromatogr. A, **720**, 263 (1966).

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