



Sialidase Sp

Sialidase, NANase, N-acetylneuraminase glycohydrolase

$\alpha(2-3)$ Sialidase (N-acetylneuraminase glycohydrolase EC 3.2.1.18) cleaves exclusively the non-reducing terminal $\alpha(2-3)$ unbranched sialic acid residues from complex carbohydrates and glycoproteins. There is no detectable activity on $\alpha(2-6)$ or $\alpha(2-8)$ linkages or on branched $\alpha(2-3)$ linkages (see Figure 1). To cleave all non-reducing terminal sialic acid residues including branched sialic acids (linked to an internal residue) from complex carbohydrates and glycoproteins, use $\alpha(2-3,6,8,9)$ Sialidase (E-S001).

Source

recombinant from *Streptococcus pneumoniae* in *E. Coli*

Catalog Number

E-S007	60 μ l
E-S007-20	20 μ l
E-S007-200	200 μ l

EC 3.2.1.18

Applications

- Structural analysis of oligosaccharides
- Determining sialic acid linkage
- Glycoprotein deglycosylation
- Removing heterogeneity from glycoproteins

Recommended Reagents

included with 20 μ L and 60 μ L pack sizes:

1 vial: Reaction buffer – 400 μ l
250mM Sodium phosphate, pH 6.0

Specificity

All non-reducing terminal branched and unbranched $\alpha(2-3)$ sialic acid.

Activity ≥ 5 U/ml

Specific Activity ≥ 150 U/mg

Specific Activity Assay

One unit of QA-Bio Sialidase is defined as the amount of enzyme required to produce 1 μ mole of methylumbelliferone in 1 minute at 37°C, pH 5.0 from MU-NANA (2'-(4-methylumbelliferyl)- α -D-N acetylneuraminic acid].

Molecular Weight ~75,000 daltons

pH optimum 6.0, active over the range 4.5-7.

50 mM sodium phosphate (pH 6.0) provides the optimal buffer for enzyme activity with sialyllactose, a standard substrate. If glycosidase treatment is performed at suboptimal pH because of glycoprotein solubility or activity requirements, expect some diminution in enzyme activity.

Formulation

The enzyme is provided as a sterile-filtered solution in 50 mM Sodium phosphate pH 7.5.

Stability

Stable at least 12 months when stored properly. Several days exposure to ambient temperatures will not reduce activity.

Sialidase Sp Specifications - Protocol

Storage

Store enzyme at 4°C. Do not freeze.

Purity

QA-Bio Sialidase Sp is tested for contaminating protease as follows: 10 µg of denatured BSA is incubated at 37°C for 24 hours with 2 µl of enzyme. SDS-PAGE analysis of the treated BSA shows no evidence of degradation.

The production host strain has been extensively tested and does not produce any detectable glycosidases.

Directions for use

1. Add up to 100 µg of glycoprotein or 1 nmol of oligosaccharide to tube.
2. Add de-ionized water to a total of 14 µl.
3. Add 4 µl 5x Reaction Buffer 6.0.
4. Add 2 µl Sialidase Sp.
5. Incubate at 37°C for 1 hour.

NOTE: longer incubation times are necessary if branched sialic acids are present.

Desialylation may be monitored by SDS-PAGE if the size differential between native and de-sialylated protein is sufficient for detection.

References:

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Warranties and liabilities

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This product is intended for *in vitro* research only.

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