



## Sialidase Cp

Neuraminidase, NANase, N-acetylneuraminatase  
glycohydrolase

### Source

recombinant from *Clostridium perfringens*

### Catalog Number

E-S005	60 µl
E-S005-20	20 µl
E-S005-200	200 µl

### EC

3.2.1.18

### Applications

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

### Recommended Reagents

included with 20µL and 60 µL pack sizes:

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

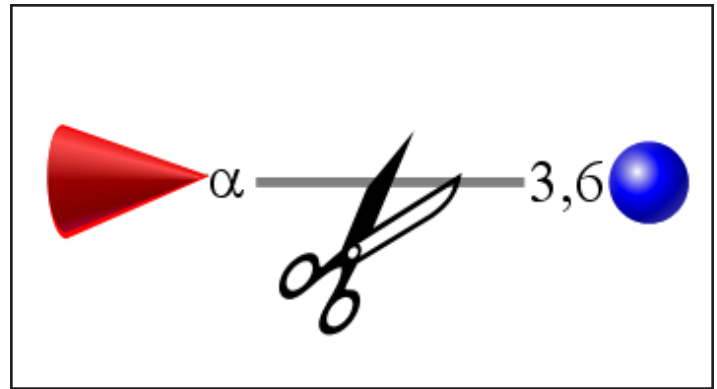
**Activity** ≥ 15 U/ml

**Specific Activity** ≥ 250 U/mg

**Molecular Weight** ~41,000 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.



### Specific Activity

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

### Specificity

All non-reducing terminal branched and unbranched  $\alpha$ -(2-3) and  $\alpha$ -(2-6) sialic acid.

Relative activity  $\alpha$ -(2-3) >  $\alpha$ -(2-6)

### Formulation

The enzyme is provided as a sterile-filtered solution in 20 mM Tris-HCl, 25 mM NaCl (pH 7.5).

### Stability

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

### Storage

Store enzyme at 4°C. Do not freeze.

### Purity

QA-Bio Sialidase Cp 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.

**Sialidase Cp**  
**Specifications - Protocol**

### 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 Cp.
5. Incubate at 37°C for 1 hour.

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

### References:

Corfield, A. P., H. Higa, J. C. Paulson and R. Schauer. The specificity of viral and bacterial sialidases for alpha(2-3) and alpha(2-6)-linked sialic acids in glycoproteins. *Biochim Biophys Acta* 744:121-126 (1983).

Dwek, R. A. , C. J. Edge, D. J. Harvey, M. R. Wormald and R. B. Parekh. Analysis of glycoprotein-associated oligosaccharides. *Ann Rev Biochem* 62:65-100 (1993).

Kobata, A. Use of endo- and exoglycosidases for structural studies of glycoconjugates. *Anal Biochem* 100:1-14 (1979).

Prime, S. J. Dearnley, A. M. Venton, R. B. Parekh and C. J. Edge. Oligosaccharide sequencing based on exo- and endoglycosidase digestion and liquid chromatographic analysis of the products. *J Chromatogr A* 720:263-274 (1996).

Roggentin, P, B. Rothe, F. Lottspeich and R. Schauer. Cloning and sequencing of a *Clostridium perfringens* sialidase gene. *FEBS Lett* 238: 31-34 (Sept 1988).

Roggentin P., R. G. Kleinedam and R. Schauer. Diversity in the properties of two sialidase isoenzymes produced by *Clostridium perfringens* spp. *Biol Chem Hoppe-Seyler* 376: 569-575 (1995).

### Warranties and liabilities

QA-Bio, Inc warrants that the above product conforms to the specifications described herein. Should the product fail for reasons other than through misuse QA-Bio, Inc will, at its option, replace free of charge or refund the purchase price. This warranty is exclusive and QA-Bio, Inc makes no other warranties, expressed or implied, including any implied conditions or warranties of merchantability or fitness for any particular purpose.

QA-Bio, Inc shall not be liable for any incidental, consequential or contingent damages.

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

*revised on August 11, 2018*