



Sialidase Au Alpha-(2-3,6,8,9)

Nueraminidase, NANase

Source

recombinant from *Arthrobacter ureafaciens*

Catalog Number E-S001

Certification of Analysis Lot Number 807.1A

EC 3.2.1.18

Applications

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

Contents

1 vial: Sialidase Au - 60 μ l (.3 U) of
in 20 mM Tris-HCl, 25 mM NaCl, pH 7.5
1 vial: Reaction buffer
250mM Sodium phosphate, pH 6.0

Specific Activity 135 U/mg

Activity 5 U/ml

Molecular Weight ~69,000 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 Au 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-methyl-umbelliferyl)-*alpha*-D-N acetylneuraminic acid].

Specificity

All non-reducing terminal branched and unbranched sialic acid.

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 Au is tested for contaminating protease as follows: 10 μ g of denatured BSA is incubated at 37°C for 24 hours with 2 μ l 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.

E-S001 Sialidase Au

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 Reaction Buffer 6.0.
4. Add 2 µl Sialidase Au.
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

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).

Ohta, Y., Y. Tsukada and T. Sugimori. Purification and properties of neuraminidase isoenzymes in *Arthrobacter ureafaciens* mutant. *J Biochem (Tokyo)* 106:1086-1089 (1989).

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).

Uchida, Y., Y. Tsukada and T. Sugimori. Enzymatic properties of neuraminidases from *Arthrobacter ureafaciens*. *J Biochem (Tokyo)* 86:573-585 (1979).

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

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