



N-acetylglucosaminidase

β -N-acetylglucosaminidase, glucosaminidase, N-acetyl- β -D-glycosaminide, hexosaminidase, N-acetylglucosaminohydrolase

Source

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

Catalog Number

E-GL01	60 μ l
E-GL01-20	20 μ l
E-GL01-200	200 μ l

EC 3.2.1.30

Contents:

N-Acetylglucosaminidase in 20 mM Tris-HCl, 25 mM NaCl (pH 7.5).

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

1 vial: 5x Reaction buffer

250mM Sodium phosphate, pH 5

Activity \geq 40 U/ml

Specific Activity \geq 80 U/mg

Application

- Structural analysis of oligosaccharides
- Distinguishing different N-acetyl glucosamine linkages
- Distinguishing between N-acetyl glucosamine and N-acetylgalactosamine
- Removing heterogeneity from glycoproteins

Molecular Weight ~140,000 daltons

pH optimum 5.0, active over the range 5-7

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Specificity

All non-reducing terminal β -linked N-acetylglucosamine. Bisecting GlcNAc slows the reaction.

Specific Activity Assay

One unit of QA-Bio N-acetylglucosaminidase is defined as the amount of enzyme required to produce 1 μ mole of p-nitrophenol (pNP) in 1 minute at 37°C, pH 5.0 from p-nitrophenyl- β -D-N-acetyl-glucosaminide.

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 N-acetylglucosaminidase 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.

N-Acetylglucosaminidase

Specifications - Protocol

phone/fax 866-384-2272
phone 760-760-249-2664

Directions for use

1. Add up to 100 µg of asialogalacto-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 5.0.
4. Add 2 µl N-acetylglucosaminidase
5. Incubate at 37°C for 3 hours. If bisecting GlcNAc is present, incubation time should be increased to 12 hours.

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

References

Clarke, V. A., N. Platt and T.D. Betters. Cloning and expression of the beta-N-acetylglucosaminidase gene from *Streptococcus pneumoniae*. Generation of truncated enzymes with modified aglyconn specificity. *J Biol Chem* 270:8805-8814 (1995).

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).

Glasgow, L.R., J.C. Paulson and R.L. Hill. Systematic purification of five glycosidases from *Streptococcus pneumoniae*. *J Biol Chem* 252: 8615-8623(1977).

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).

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

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