



Glucosaminidase

β -N-acetylglucosaminidase

Source

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

Catalog Number

E-GL01

Certification of Analysis Lot Number

502.1A

EC

3.2.1.30

Contents

1 vial: Glucosaminidase

1 vial: 5x Reaction buffer

250mM Sodium phosphate, pH 5

Specific Activity >80 U/mg

Activity >40 U/ml

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

Specific Activity

One unit of QA-Bio Glucosaminidase 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

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Glucosaminidase



Specificity

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

Formulation

The enzyme is provided as a sterile-filtered solution in 20 mM Tris-HCl, 175 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 Glucosaminidase 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-GL01 Glucosaminidase Specifications - Protocol

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fax 760-262-3139

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 Glucosaminidase.
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).

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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).

Warranties and liabilities

QA-Bio, LLC warrants that the above product conforms to the specifications described herein. Should the product fail for reasons other than through misuse QA-Bio, LLC will, at its option, replace free of charge or refund the purchase price. This warranty is exclusive and QA-Bio, LLC makes no other warrants, expressed or implied, including any implied conditions or warranties of merchantability or fitness for any particular purpose. QA-Bio, LLC shall not be liable for any incidental, consequential or contingent damages.

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

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