

Endo H



1-800-632-7799
info@neb.com
www.neb.com



P0702S 017150117011

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10,000 units 500,000 U/ml Lot: 0171501
RECOMBINANT Store at -20°C Exp: 1/17

Description: Endoglycosidase H is a recombinant glycosidase which cleaves the chitobiose core of high mannose and some hybrid oligosaccharides from N-linked glycoproteins (1)

New Reaction Buffer

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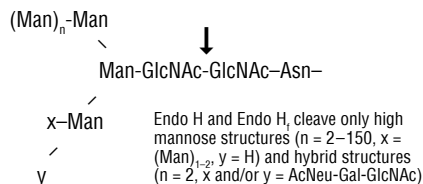


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Specificity:



Source: Cloned from *Streptomyces plicatus* (2) and overexpressed in *E. coli* (3).

Applications:

- Removal of carbohydrate residues from proteins

Supplied in: 50 mM NaCl, 20 mM Tris-HCl (pH 7.5 @ 25°C) and 5 mM Na₂EDTA.

Reagents Supplied with Enzyme:

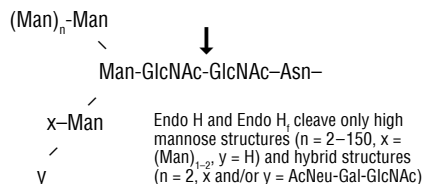
10X Glycoprotein Denaturing Buffer:
5% SDS, **0.4 M DTT**

10X Glycobuffer 3:

[0.5 M Sodium Acetate (ph 6.0 @ 25°C)]

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Reaction Conditions:

Typical reaction conditions are as follows:

1. Combine 1–20 µg of glycoprotein, 1 µl of 10X Glycoprotein Denaturing Buffer and H₂O (if necessary) to make a 10 µl total reaction volume.
2. Denature glycoprotein by heating reaction at 100°C for 10 minutes.
3. Make a total reaction volume of 20 µl by adding 2 µl of 10X GlycoBuffer 3, H₂O and 1–5 µl Endo H.
4. Incubate reaction at 37°C for 1 hour.

Note: Reactions may be scaled-up linearly to accommodate larger reaction volumes.

Unit Definition: One unit is defined as the amount of enzyme required to remove > 95% of the carbohydrate from 10 µg of denatured RNase B in 1 hour at 37°C in a total reaction volume of 10 µl (10 NEB units = 1 IUB milliunit).

Unit Definition Assay: 10 µg of RNase B are denatured with 1X Glycoprotein Denaturing Buffer at 100°C for 10 minutes. After the addition of 1X GlycoBuffer 3, two-fold dilutions of Endo H

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are added and the reaction mix is incubated for 1 hour at 37°C. Separation of reaction products is visualized by SDS-PAGE.

Specific Activity: ~ 915,000 units/mg

Molecular Weight: 29,000 daltons

Quality Assurance: No contaminating exoglycosidase or proteolytic activity could be detected.

Quality Controls

Glycosidase Assays: 5,000 units of Endo H were incubated with 0.1 mM of fluorescently-labeled oligosaccharides and glycopeptides, in a 10 µl reaction for 20 hours at 37°C. The reaction products were analyzed by TLC for digestion of substrate.

Physical Purity: Purified to > 95% homogeneity as determined by SDS-PAGE analysis using Coomassie Blue detection.

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No other glycosidase activities were detected (ND) with the following substrates:

β-N-Acetyl-glucosaminidase:

GlcNAcβ1-4GlcNAcβ1-4GlcNAc-AMC ND

α-Fucosidase:

Fucα1-2Galβ1-4Glc-AMC Galβ1-4
(Fucα1-3)GlcNAcβ1-3Galβ1-4Glc-AMC ND

β-Galactosidase:

Galβ1-3GlcNAcβ1-4Galβ1-4Glc-AMC ND

α-Galactosidase:

Galα1-3Galβ1-4Galα1-3Gal-AMC ND

α-Neuraminidase:

Neu5Acα2-3Galβ1-3GlcNAcβ1-3Galβ
1-4Glc-AMC ND

α-Mannosidase:

Manα1-3Manβ1-4GlcNAc-AMC
Manα1-6Manα1-6(Manα1-3)Man-AMC ND

β-Glucosidase:

Glcβ1-4Glcβ1-4Glc-AMC ND

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β-Galactosidase:

Galβ1-3GlcNAcβ1-4Galβ1-4Glc-AMC ND

α-Galactosidase:

Galα1-3Galβ1-4Galα1-3Gal-AMC ND

α-Neuraminidase:

Neu5Acα2-3Galβ1-3GlcNAcβ1-3Galβ
1-4Glc-AMC ND

α-Mannosidase:

Manα1-3Manβ1-4GlcNAc-AMC
Manα1-6Manα1-6(Manα1-3)Man-AMC ND

β-Glucosidase:

Glcβ1-4Glcβ1-4Glc-AMC ND

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β-Xylosidase:

Xylβ1-4Xylβ1-4Xylβ1-4Xyl-AMC ND

β-Mannosidase:

Manβ1-4Manβ1-4Man-AMC ND

Endo F₂, F₃:

Dansylated fibrinogen biantennary. ND

PNGase F:

Fluoresceinated fetuin triantennary. ND

Protease Assay: After incubation of 5,000 units of Endo H with 0.2 nmol of a standardized mixture of proteins, for 20 hours at 37°C, no proteolytic activity could be detected by SDS-PAGE.

Notes On Use: Enzymatic activity is not affected by SDS.

To deglycosylate a native glycoprotein, longer incubation time as well as more enzyme may be required.

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2. Robbins, P. et al. (1984) *J. Biol. Chem.* 259, 7577–7583.
3. Guan, C and Wong, S., New England Biolabs Inc., unpublished results.

Companion Product Sold Separately:

RNase B
#P7817S 250 µg



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