

Native Human β -N-Acetylglucosaminidase

Cat. No. NATE-0781

Lot. No. (See product label)

Introduction

Description This enzyme, sometimes called β -N-acetylhexosaminidase, is reported to liberate terminal β -linked N-acetylglucosamine and N-acetylgalactosamine from a variety of substrates. The activity of β -N-acetylglucosaminidase may be determined with the chromogenic substrate p-nitrophenyl-N-acetyl- β -D-glucosaminide. β -N-acetylglucosaminidase hydrolyzes the terminal nonreducing N-acetyl-D-hexosamine residues. This enzyme contains two predominant isozymes, Hex A, a heterodimer, and Hex B, a homodimer. N-acetylglucosamine, acetamide, N-2-acetamido-2-deoxyglucosylamine, N-acetylnojirimycin, and N-acetyldeoxynojirimycin are known inhibitors.

Applications β -N-acetylglucosaminidase is a lysosomal enzyme used to hydrolyze N-acetyl- β -D-glucosaminides and N-acetyl- β -D-galactosaminides. It is used in chemoenzymatic synthesis of oligosaccharides based on their effective transglycosylation of β -GlcNAc and β -GalNAc. It may be a useful tool to study Alzheimer's Disease.

Synonyms hexosaminidase; β -acetylaminodeoxyhexosidase; N-acetyl- β -D-hexosaminidase; N-acetyl-beta-hexosaminidase; β -hexosaminidase; β -acetylhexosaminidase; β -D-N-acetylhexosaminidase; β -N-acetyl-D-hexosaminidase; β -N-acetylglucosaminidase; hexosaminidase A; N-acetylhexosaminidase; β -D-hexosaminidase; 9012-33-3; EC 3.2.1.52

Product Information

Species Human

Source Human placenta

Form ammonium sulfate suspension. Suspension in 2.4 M (NH₄)₂SO₄ containing 0.15 M NaCl and 0.1 M sodium phosphate, pH 6.0

EC Number EC 3.2.1.52

CAS No. 9012-33-3

Activity 6-20 units/mg protein

Pathway Other glycan degradation, organism-specific biosystem; Other glycan degradation, conserved biosystem; Amino sugar and nucleotide sugar metabolism, organism-specific biosystem; Amino sugar and nucleotide sugar metabolism, conserved biosystem; Glycosaminoglycan degradation, organism-specific biosystem; Glycosaminoglycan degradation, conserved biosystem; Glycosphingolipid biosynthesis-ganglio series, organism-specific biosystem; Glycosphingolipid biosynthesis-ganglio series, conserved biosystem; Glycosphingolipid biosynthesis-globo series, organism-specific biosystem

Function mannosyl-glycoprotein endo-beta-N-acetylglucosaminidase activity; beta-N-acetylhexosaminidase activity; cation binding; hydrolase activity, hydrolyzing O-glycosyl compounds; protein heterodimerization activity

Unit Definition One unit will hydrolyze 1.0 μ mole of p-nitrophenyl N-acetyl- β -D-glucosaminide to p-nitrophenol and N-acetyl-D-glucosamine per min at the pH 4.25 at 25°C.

Storage and Shipping Information

Storage 2-8°C