Creative Enzymes®

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-actylglucosaminidase may be determined with the chromogenic substrate p-nitrophenyl-N-acetyl-β-D-glucosaminide. β-N-actylglucosaminidase 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-deoyglucosylamine, N-acetylnojirimycin, and N-acetyldeoxynojirmycin are known inhibitors.

Applications β-N-acetylglucosaminidase is a lysosomal enzyme used to hydrolyze N-acetyl-β-D-glucosaminides and N-acetyl-β-Dgalactosaminides. It is used in chemoenzymatic synthesis of oligosaccharides based on their effective transglycosylation of β-GlcNAc and β-GalNAcc. 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-acetylhexosaminidinase; 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 µmole 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