N-Acetylglucosamine-1-Phosphodiester Alpha-N-Acetylglucosaminidase (NAGPA) Mouse Recombinant Protein

PRODUCT OVERVIEW

Product Name	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase (Nagpa), Recombinant Protein
Full Product Name	Recombinant Mouse N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase (Nagpa), partial
Product Gene Name	Nagpa recombinant protein
Product Synonym Gene Name	Nagpa
Sequence	GSRAER NRHLDGDYVY HPLQEVNGEA LTAEKEHMEE TSNPFKD
Host	E Coli or Yeast or Baculovirus or Mammalian Cell
Form/Format	Lyophilized or liquid (Format to be determined during the manufacturing process)
Purity/Purification	Greater or equal to 85% purity as determined by SDS-PAGE. (lot specific)
Preparation and Storage	Store at -20 degrees C. For long-term storage, store at -20 degrees C or -80 degrees C. Store working aliquots at 4 degrees C for up to one week. Repeated freezing and thawing is not recommended.
Molecular Weight	56,044 Da
Sequence Positions	475-517
Tag Information	This protein contains an N-terminal tag and may also contain a C-terminal tag. Tag types are determined by various factors including tag-protein stability, please inquire for tag information.
Sterility	Sterile filter available upon request.
Endotoxin	Low endotoxin available upon request.
3D Structure	ModBase 3D Structure for Q8BJ48
Species	Mouse
ISO Certification	Manufactured in an ISO 9001:2015 Certified Laboratory.
Related Product Information for Nagpa recombinant protein	Hydrolases are transported to lysosomes after binding to mannose 6-phosphate receptors in the trans-Golgi network. This gene encodes the enzyme that catalyzes the second step in the formation of the mannose 6-phosphate recognition marker on lysosomal hydrolases. Commonly known as uncovering enzyme or UCE, this enzyme removes N-acetyl-D-glucosamine (GlcNAc) residues from GlcNAc-alpha-P-mannose moieties and thereby produces the recognition marker. This reaction most likely occurs in the trans-Golgi network. This enzyme functions as a homotetramer of two disulfide-linked homodimers. In addition to having an N-terminal signal peptide, the protein s C-terminus contains multiple signals for trafficking it between lysosomes, the plasma membrane, and trans-Golgi network.
Other Notes	Small volumes of Nagpa recombinant protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for Nagpa purchase	MBS1387927 is a recombinant protein targeting Nagpa. Also known as Recombinant Mouse N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase (Nagpa), partial. Host: E Coli or Yeast or Baculovirus or Mammalian Cell.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for Nagpa. It may not necessarily be applicable to this product.

NCBI GI #	241982768

NCBI GeneID	27426
NCBI Accession #	NP_038824.2
UniProt Primary Accession #	Q8BJ48
UniProt Secondary Accession #	Q3UUT5; Q8CHQ8; Q9QZE6
UniProt Related Accession #	Q8BJ48
GenBank Nucleotide #	NM_013796.3
NCBI Official Full Name	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase
NCBI Official Synonym Full Names	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase
NCBI Official Symbol	Nagpa
NCBI Official Synonym Symbols	UCE; AI596180
UniProt Protein Name	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase
UniProt Synonym Protein Names	Mannose 6-phosphate-uncovering enzyme; Phosphodiester alpha-GlcNAcase
Protein Family	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase
UniProt Gene Name	Nagpa
NCBI Protein Information	N-acetylglucosamine-1-phosphodiester alpha-N-acetylglucosaminidase
UniProt Comments for Nagpa	Catalyzes the second step in the formation of the mannose 6-phosphate targeting signal on lysosomal enzyme oligosaccharides by removing GlcNAc residues from GlcNAc-alpha-P-mannose moieties, which are formed in the first step. Also hydrolyzes UDP-GlcNAc, a sugar donor for Golgi N-acetylglucosaminyltransferases.
Research Articles on Nagpa	**1.** UCE -/- mice were viable, grew normally & lacked detectable histologic abnormalities, but plasma levels of 6 acid hydrolases were elevated. UCE accounts for all the uncovering activity in the Golgi.
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