

Recombinant Mouse MGT5A Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51799

Size: 10ug, 100ug

Protein Name: Alpha-1,6-mannosylglycoprotein 6-beta-N-acetylglucosaminyltransferase A (EC 2.4.1.155) (Alpha-mannoside beta-1,6-N-acetylglucosaminyltransferase) (GlcNAc-T V) (GNT-V) (Mannoside acetylglucosaminyltransferase 5) (N-acetylglucosaminyl-transferase V) [Cleaved into: Secreted alpha-1,6-mannosylglycoprotein 6-beta-N-acetylglucosaminyltransferase A (Secreted beta-1,6-N-acetylglucosaminyltransferase V) (Secreted GNT-V)]

Synonym: Mgat5

UniProt ID: Q8R4G6

UniProt Link: www.uniprot.org/uniprotkb/Q8R4G6/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 740 AA

Molecular Weight: 85 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MAFFSPWKLSSQKLGFLLVTFGFIWGMMLLHFTIQQRTQPESSSMLREQILDLSKRYIKALAEENRDV
VDGPYAGVMTAYDLKKTAVLLDNILQRIGKLESKVDNLVNGTGANSTNSTTAVPSLVSLEKINVADII
NGVQEKCVLPMDGYPHCEGKIKWMKDMWRSDPCYADYGV DGTSCSFFIYLSEVENWCPRLPWR
AKNPYEEADHNSLAEIRTDNFILY GMMKKHEEF RWMRLRIRRMADAWIQAISLAEKQNLEKRKRKKI
LVHLGLLTKESGFKIAETAFSGGPLGELVQWSDLITSLYLLGHDIRISASLAELKEIMKKVVGNRSGCP
TVGDRIVELIYIDIVGLAQFKKTLGPSWVHYQCMLRVLD SFGTEPEFNHASYAQSKGHKTPWGKWNL
NPQQFYTMFPHTPDNSFLGFVVEQHLNSSDIHHINEIKRQNSLVYGVKVD SFWKNKKIYLDIIHTYME
VHATVYGSSTKNIPSYVKNHGILSGRDLQFLLRETCLFVGLGFPYEGPAPLEAIANGCAFLNPKFNPP
KSSKNTDFFIGKPTLRELTSQHPYAEVFIGRPHVWTVDLNNREEVEDAVKAILNQKIEPYMPYEFTCE
GMLQRINAFIEKQDFCHGQVMWPPLSALQVKLAEPGQSCKQVCQESQLICEPSFFQHLNKEKDLLK
YKVTCQSSELYKDILVPSFYPSKSKHCVFQGDLLLFSCAGAHPTHQRICPCRDFIKGQVALCKDCL

3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

5. Product Description

This product is recombinant Alpha-1,6-mannosylglycoprotein 6-beta-N-acetylglucosaminyltransferase A (EC 2.4.1.155) (Alpha-mannoside beta-1,6-N-acetylglucosaminyltransferase) (GlcNAc-T V) (GNT-V) (Mannoside acetylglucosaminyltransferase 5) (N-acetylglucosaminyl-transferase V) [Cleaved into: Secreted alpha-1,6-mannosylglycoprotein 6-beta-N-acetylglucosaminyltransferase A (Secreted beta-1,6-N-acetylglucosaminyltransferase V) (Secreted GNT-V)] produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

Protein Function: Catalyzes the addition of N-acetylglucosamine (GlcNAc) in beta 1-6 linkage to the alpha-linked mannose of biantennary N-linked oligosaccharides (PubMed:10700233, PubMed:14561752, PubMed:22715095). Catalyzes an important step in the biosynthesis of branched, complex-type N-glycans, such as those found on EGFR, TGFR (TGF-beta receptor) and CDH2 (PubMed:10700233, PubMed:12122020, PubMed:14561752, PubMed:15459394, PubMed:22715095). Via its role in the biosynthesis of complex N-glycans, plays an important role in the activation of cellular signaling pathways, reorganization of the actin cytoskeleton, cell-cell adhesion and cell migration (PubMed:10700233, PubMed:14561752, PubMed:15459394). MGAT5-dependent EGFR N-glycosylation enhances the interaction between EGFR and LGALS3 and thereby prevents rapid EGFR endocytosis and prolongs EGFR signaling (PubMed:15459394). Required for efficient interaction between TGFB1 and its receptor (PubMed:15459394). Enhances activation of intracellular signaling pathways by several types of growth factors, including FGF2, PDGF, IGF, TGFB1 and EGF (PubMed:15459394). MGAT5-dependent CDH2 N-glycosylation inhibits CDH2-mediated homotypic cell-cell adhesion and contributes to the regulation of downstream signaling pathways (PubMed:14561752). Promotes cell migration (PubMed:14561752, PubMed:15459394). Contributes to the regulation of the inflammatory response (PubMed:11217864, PubMed:15459394). MGAT5-dependent TCR N-glycosylation enhances the interaction between TCR and LGALS3, limits agonist-induced TCR clustering, and thereby dampens TCR-mediated responses to antigens (PubMed:11217864). Required for normal leukocyte evasion and accumulation at sites of inflammation (PubMed:15459394). Inhibits attachment of monocytes to the vascular endothelium and subsequent monocyte diapedesis (By similarity).; [Secreted alpha-1,6-mannosylglycoprotein 6-beta-N-acetylglucosaminyltransferase A]: Promotes proliferation of umbilical vein endothelial cells and angiogenesis, at least in part by promoting the release of the growth factor FGF2 from the extracellular matrix.

Subcellular Localization: Golgi apparatus membrane ; Single-pass type II membrane protein . Perikaryon .; [Secreted alpha-1,6-mannosylglycoprotein 6-beta-N-acetylglucosaminyltransferase A]: Secreted .

6. Notes



- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.