

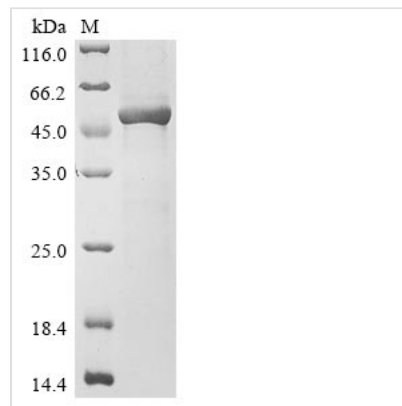


Recombinant Human Alpha-1,3-mannosyl-glycoprotein 4-beta-N-acetylglucosaminyltransferase A (MGAT4A), partial

Product Code	CSB-EP890937HU
Abbreviation	Recombinant Human MGAT4A protein, partial
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	Q9UM21
Form	Liquid or Lyophilized powder
Storage Buffer	If the delivery form is liquid, the default storage buffer is Tris/PBS-based buffer, 5%-50% glycerol. If the delivery form is lyophilized powder, the buffer before lyophilization is Tris/PBS-based buffer, 6% Trehalose.
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 85% as determined by SDS-PAGE.
Sequence	LLKELTSKKSLQVPSIYYHLPHELLKNEGSLQPAVQIGNGRTGVSIVMGIPTVKRE VKSYLETLHSLIDNLYPEEKLDCEVIVVFIGETDIDYVHGVVANLEKEFSKEISSGL VEVISPPESYYPDLTNLKETFGDSKERVWRWKQNLDYCFLMMYAQEKGIYYI QLEDDIIVKQNYFNTIKNFALQLSSEEWMIFFSQLGFIGKMFQAPDLTLIVEFIF MFYKEKPIDWLLDHILWVKVCNPEKDAKHCDRQKANLRIRFRPSLFQHVGLHS SLSGKIQKLTDKDYMKPLLLKIHVNPPAEVSTSLKVYQGHTLEKTYMGEDFFW AITPIAGDYILFKFDKPVNVESYLFHSGNQEHPGDILLNTTVEVLPFKSEGLEISK ETKDKRLEDGYFRIGKFENGVAEGMVDPSLNPISAFRLSVIQNSAVWAILNEIHI KKATN
Research Area	Metabolism
Source	E.coli
Target Names	MGAT4A
Expression Region	93-535aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.
Tag Info	N-terminal 6xHis-tagged
Mol. Weight	55.0 kDa
Protein Length	Partial



Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

Recombinant Human MGAT4A is expressed in E.coli and covers amino acid region 93-535, representing a partial length version of the protein. The product includes an N-terminal 6xHis tag for easier purification and detection. SDS-PAGE analysis confirms the protein reaches purity levels above 85%. This preparation is designed for research use only and appears to deliver consistent performance across different experimental setups.

MGAT4A represents a key glycosyltransferase that modifies N-glycans and plays an important role in creating complex-type oligosaccharides. The enzyme's activity affects N-glycan branching patterns, which may influence protein folding and cell-cell interactions. Studying MGAT4A could help researchers better understand glycosylation pathways and how they relate to cellular function and disease processes.

Potential Applications

Note: The applications listed below are based on what we know about this protein's biological functions, published research, and experience from experts in the field. However, we haven't fully tested all of these applications ourselves yet. We'd recommend running some preliminary tests first to make sure they work for your specific research goals.

1. Biochemical Characterization and Enzyme Kinetics Studies

Researchers can use this recombinant MGAT4A protein to explore the enzyme's basic biochemical properties - things like optimal pH, temperature stability, and what cofactors it needs to function. The N-terminal 6xHis tag makes purification straightforward and allows for protein immobilization during kinetic experiments. Scientists can measure K_m and V_{max} values across different substrate concentrations to get a sense of the enzyme's catalytic efficiency. The partial protein construct (93-535aa) likely retains the catalytic domain, which should make it useful for core enzymology work.

2. Antibody Development and Validation

This purified recombinant protein works well as an immunogen for creating polyclonal or monoclonal antibodies against human MGAT4A. The >85% purity



appears sufficient for standard immunization protocols and antibody testing. The 6xHis tag simplifies purification and can be helpful in tag-based ELISA assays when screening and validating antibody specificity. Such antibodies would likely prove valuable for Western blotting, immunoprecipitation, and tracking protein location within cells.

3. Protein-Protein Interaction Studies

Scientists can immobilize the 6xHis-tagged MGAT4A on nickel-affinity matrices for pull-down assays aimed at finding potential binding partners or regulatory proteins. The recombinant protein may serve as bait in biochemical screens using cell lysates or purified protein collections. Co-immunoprecipitation experiments that take advantage of the His tag could help reveal protein complexes that involve MGAT4A in glycosylation networks. Even this partial construct might preserve important protein interaction domains needed for studying how the enzyme is regulated.

4. Substrate Specificity and Inhibitor Screening

This recombinant enzyme allows researchers to systematically test substrate preferences and identify specific glycoprotein targets for N-acetylglucosaminyltransferase activity. Having purified protein enables controlled in vitro assays for testing various potential substrates and optimizing reaction conditions. Scientists can use this protein to screen for potential inhibitors or compounds that modulate MGAT4A activity in drug discovery efforts. The standardized protein preparation should provide reproducible results when comparing different experimental conditions.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL. We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.