Recombinant ALG2 protein (His tag)

Catalog Number	543621
Synonyms	Asparagine-linked glycosylation protein 2 homolog; GDP-Man:Man(1)GlcNAc(2)-PP-Dol alpha-1,3-mannosyltransferase; GDP-Man:Man(1)GlcNAc(2)-PP-dolichol mannosyltransferase; GDP-Man:Man(2)GlcNAc(2)-PP-Dol alpha-1,6-mannosyltransferase
Species	Human
Expression System	E. coli
Accession	Q9H553
Molecular Weight	Predictes a molecular mass of 48.75 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 50 kDa band.

Product Information

Sequence Region	1-416
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>88%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 1-416 aa (Q9H553) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	Recombinant ALG2 (Alpha-1,3/1,6-mannosyltransferase) fragment (residues 1-416) from Homo sapiens, a key enzyme in the early stages of N-glycosylation. This fragment is designed for high solubility and stability, enabling structural and functional studies of mannosyltransferase activity in dolichol-linked oligosaccharide biosynthesis. ALG2 is a crucial mannosyltransferase in the endoplasmic reticulum membrane, operating on the cytoplasmic side to catalyze the sequential addition of the second and third mannose residues during dolichol-linked oligosaccharide assembly. This process forms the Man3GlcNAc(2)-PP-dolichol core, a critical precursor for protein N-glycosylation, which is essential for proper protein folding, stability, and cellular function. As a single-pass membrane protein, ALG2's activity initiates the glycan chain elongation that supports subsequent steps in glycosylation pathways, with implications for understanding congenital disorders of glycosylation.