Data Sheet (Cat.No.TMPY-03611)

TargetMol

PMM2 Protein, Human, Recombinant (His)

General Information

Synonyms:	CDG1a;phosphomannomutase 2;PMM2;CDGS;CDG1;PMI;PMI1
Protein Construction:	A DNA sequence encoding the human PMM2 (O15305) (Met1-Ser246) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	O15305
Molecular Weight:	29.9 kDa (predicted); 28 kDa (reducing conditions)

QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	Please contact us for more information.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing 20 mM Tris, 100 mM NaCl, 10% Glycerol, pH 8.0.Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

Preparation and Storage

Reconstitution:

A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

Stability & Storage:

It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

Shipping:

In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

Protein Background

Phosphomannomutase 2, also known as PMM2 and CDG1, belongs to the eukaryotic PMM family. Phosphomannomutase 2 catalyzes the isomerization of mannose 6-phosphate to mannose 1-phosphate. Mannose 1-phosphate is a precursor to GDP-mannose necessary for the synthesis of dolichol-P-oligosaccharides. GDP-mannose can transfer its small sugar molecule called mannose to the growing oligosaccharide chain. Once the correct number of small sugar molecules are linked together to form the oligosaccharide, it can be attached to

a protein. Phosphomannomutase 2 is also required for a number of critical mannosyl transfer reactions. Mutations in PMM2 gene have been shown to cause defects in the protein glycosylation pathway manifest as carbohydrate-deficient glycoprotein syndrome type I.

Reference

Jaeken J. et al., 2002, Annual review of genomics and human genetics. 2: 129-51.
Matthijs G. et al., 2000, Mol Genet Metab. 68 (2): 220-6.
Matthijs G. et al., 1997, Nat Genet. 16 (1): 88-92.