Data Sheet (Cat.No.TMPY-03755)

TargetMol

GPD1 Protein, Human, Recombinant (His)

General Information

Synonyms:	GPDH-C;HTGTI;GPD-C;glycerol-3-phosphate dehydrogenase 1 (soluble)
Protein Construction:	A DNA sequence encoding the human GPD1(P21695) (Met1-Met349) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	P21695
Molecular Weight:	39.4 kDa (predicted); 33-37 kDa (reducing conditions)

QC Testing

Biological Activity:	Measured by its ability to catalyze dihydroxyacetone phosphate (DHAP) to glycerol-3-phosphate, The specific activity is > 400 pmols/min/ug.
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 50 mM Tris, 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

GPD1 (Glycerol-3-Phosphate Dehydrogenase 1) is a Protein Coding gene. 2 alternatively spliced human isoforms have been reported. GPD1 is a member of the NAD-dependent glycerol-3-phosphate dehydrogenase family. The encoded protein plays a critical role in carbohydrate and lipid metabolism by catalyzing the reversible conversion of dihydroxyacetone phosphate (DHAP) and reduced nicotine adenine dinucleotide (NADH) to glycerol-3-phosphate (G3P) and NAD+. It also reduces nicotine adenine dinucleotide (NADH) to glycerol-3-phosphate (G3P)

and NAD+. Meanwhile, GPD1 and mitochondrial glycerol-3-phosphate dehydrogenase also form a glycerol phosphate shuttle that facilitates the transfer of reducing equivalents from the cytosol to mitochondria. Diseases associated with GPD1 include Hypertriglyceridemia, Transient Infantile, and Myopathy, Distal, 1.

Reference

Ou X. et al., 2006, J Mol Biol. 357 (3): 858-69.
Ou Xianjin. et al., 2011, Journal of Molecular Biology. 357 (3): 858-69.
HArding Jr. et al., 1975, Biochem Journal. 146: 223-9.

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