Data Sheet (Cat.No.TMPY-06971)

TargetMol

GGT1 Protein, Human, Recombinant (His)

General Information

Synonyms:	D22S732;gamma-glutamyltransferase 1;GTG;CD224;D22S672;γ-glutamyltransferase 1;GGT1;GGT;GGT 1
Protein Construction:	A DNA sequence encoding the Human GGT1 (P19440.2) (Pro27-Tyr569) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Pro 27
Species:	Human
Expression Host:	HEK293 Cells
Accession:	P19440.2
Molecular Weight:	60.05 kDa (predicted); 52.6 kDa and 23.8 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. ≥ 95 % as determined by SEC-HPLC.
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. 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.

Shipping:

In general, Lyophilized powders are shipping with blue ice.

Protein Background

GGT1 belongs to the gamma-glutamyltransferase protein family. Many members of this family have not yet been fully characterized and some of which may represent pseudogenes. GGT1 is composed of a heavy chain and a light chain. It catalyzes the transfer of the glutamyl moiety of glutathione to a variety of amino acids and dipeptide acceptors. GGT1 also initiates extracellular glutathione (GSH) breakdown, provides cells with a local cysteine supply and contributes to maintain intracelular GSH level. As part of the cell antioxidant defense mechanism, GGT1

can be detected in fetal and adult kidney and liver, adult pancreas, stomach, intestine, placenta and lung. Defects in GGT1 can cause glutathionuria which is known as an autosomal recessive disease.

Reference

Bulle F, et al. (1987) Assignment of the human gamma-glutamyl transferase gene to the long arm of chromosome 22. Hum Genet. 76(3):283-6.

Tate SS, et al. (1988) Renal gamma-glutamyl transpeptidases: structural and immunological studies. Arch Biochem Biophys. 262(2):397-408.

Tate SS, et al. (1988) In vitro translation and processing of human hepatoma cell (Hep G2) gamma-glutamyl transpeptidase. Biochem Biophys Res Commun. 154(3):1167-73.

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