Data Sheet (Cat.No.TMPY-03503)

TargetMol

GCSH Protein, Human, Recombinant (His)

General Information

Synonyms:	glycine cleavage system protein H (aminomethyl carrier);NKH;GCE
Protein Construction:	A DNA sequence encoding the mature form of human GCSH (AAA36011.1) (Ser49-Glu173) was expressed with a polyhistidine tag at the N-terminus. Predicted N terminal: His
Species:	Human
Expression Host:	E. coli
Accession:	AAA36011.1
Molecular Weight:	15.7 kDa (predicted); 17 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:	> 85 % 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 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.

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

Degradation of glycine is brought about by the glycine cleavage system, which is composed of four mitochondrial protein components: P protein (a pyridoxal phosphate-dependent glycine decarboxylase), H protein (a lipoic acid-containing protein), T protein (a tetrahydrofolate-requiring enzyme), and L protein (a lipoamide dehydrogenase). GCSH is the H protein, which transfers the methylamine group of glycine from the P protein to the T protein. Defects in GCSH gene are a cause of nonketotic hyperglycinemia (NKH). Two transcript

variants, one protein-coding and the other probably not protein-coding,have been found for GCSH gene. Also, several transcribed and non-transcribed pseudogenes of GCSH gene exist throughout the genome.

Reference

Hiraga K. et al., 1988, Biochem Biophys Res Commun. 151 (2): 758-62.
Fujiwara K. et al., 1991, Biochem Biophys Res Commun. 176 (2): 711-6.
Koyata H. et al., 1991, Am J Hum Genet. 48 (2): 351-61.