

## GSH-S Protein, Human, Recombinant (His)

### General Information

Synonyms:	Glutathione Synthetase;GSS;GSH-S;GSH Synthetase;Glutathione Synthase
Protein Construction:	Ala2-Val474
Species:	Human
Expression Host:	E. coli
Accession:	P48637
Molecular Weight:	55 KDa (reducing condition)
AA Sequence:	Ala2-Val474

### QC Testing

Biological Activity:	Activity has not been tested. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	Greater than 95% as determined by reducing SDS-PAGE. (QC verified)
Endotoxin:	< 0.1 ng/μg (1 EU/μg) as determined by LAL test.
Formulation:	Supplied as a 0.2 μm filtered solution of 20 mM Tris-HCl, 200 mM NaCl, pH 7.5.

### Preparation and Storage

#### Stability & Storage:

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:

Proteins are shipped with blue ice.

### Protein Background

Glutathione Synthetase belongs to the eukaryotic GSH synthase family. Glutathione Synthetase is the second enzyme in the glutathione biosynthesis pathway. It catalyses the condensation of gamma-glutamylcysteine and glycine to form glutathione. Glutathione play an important role in a variety of biological functions, including detoxification of xenobiotics, protection of cells from oxidative damage by free radicals, and membrane transport. The protein functions as a homodimer to catalyze the second step of glutathione biosynthesis, which is the ATP-dependent conversion of gamma-L-glutamyl-L-cysteine to glutathione. Defects in Glutathione Synthetase can also cause the glutathione synthetase deficiency of erythrocytes, which is a mild form causing hemolytic anemia.

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