

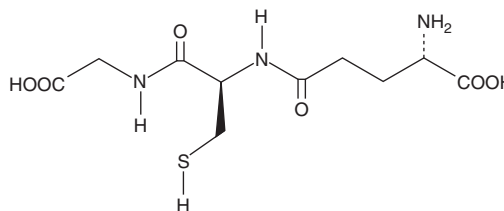
# Product Information



## L-Glutathione, reduced

Item No. 10007461

**CAS Registry No.:** 70-18-8  
**Formal Name:** L-γ-glutamyl-L-cysteinyl-glycine  
**Synonym:** GSH  
**MF:** C<sub>10</sub>H<sub>17</sub>N<sub>3</sub>O<sub>6</sub>S  
**FW:** 307.3  
**Purity:** ≥99%  
**Stability:** ≥2 years at -20°C  
**Supplied as:** A crystalline solid



### Laboratory Procedures

For long term storage, we suggest that L-glutathione, reduced (GSH) be stored as supplied at -20°C. It should be stable for at least two years.

GSH is supplied as a crystalline solid. GSH is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. For biological experiments, we suggest that organic solvent-free aqueous solutions of GSH be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of GSH in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

GSH is a tripeptide (γ-glutamylcysteinylglycine) widely distributed in both plants and animals.<sup>1,2</sup> GSH serves as a nucleophilic co-substrate to glutathione transferases in the detoxification of xenobiotics and is an essential electron donor to glutathione peroxidases in the reduction of hydroperoxides.<sup>2,3</sup> GSH is also involved in amino acid transport and maintenance of protein sulfhydryl reduction status.<sup>4,5</sup> The concentration of GSH ranges from a few micromolar in plasma to several millimolar in tissues such as liver.

### References

1. Foyer, C.H., Lelandais, M., and Kunert, K.J. Photooxidative stress in plants. *Physiol. Plant.* **92**, 696-717 (1994).
2. Glutathione: Metabolism and function, Arias, I.M. and Jakoby, W.B., editors, Raven Press, New York, (1976).
3. Baillie, T.A. and Slatter, J.G. Glutathione: A vehicle for the transport of chemically reactive metabolites *in vivo*. *Acc. Chem. Res.* **24**, 264-270 (1991).
4. Inoue, M., Saito, Y., Hirata, E., *et al.* Regulation of redox states of plasma proteins by metabolism and transport of glutathione and related compounds. *Journal of Protein Chemistry* **6**, 207-225 (1987).
5. Inoue, M. Interorgan metabolism and membrane transport of glutathione and related compounds, Chapter 6, *in* Renal biochemistry. Kinne, R.K.H., editor, Elsevier Science Publishers B.V., London, 225-269 (1985).

### Related Products

S-Nitroso-L-glutathione - Item No. 82240 • Glutathione Assay Kit - Item No. 703002 • Glutathione Peroxidase Assay Kit - Item No. 703102 • Glutathione Reductase Assay Kit - Item No. 703202 • Glutathione S-Transferase Assay Kit - Item No. 703302 • GPx4 Polyclonal Antibody - Item No. 10005258

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**WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY; NOT FOR ADMINISTRATION TO HUMANS. NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

#### MATERIAL SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Material Safety Data Sheet, which has been sent via email to your institution.

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