

Product Data Sheet

Product Name: Glutathione ethyl ester

Cat. No.: GC41293

Chemical Properties

Cas. No. 92614-59-0

Chemical Name L-γ-glutamyl-L-cysteinyl-glycine, 3-ethyl ester

SMILES O=C([C@H](CS)NC(CC[C@H](N)C(O)=O)=O)NCC(OCC)=O

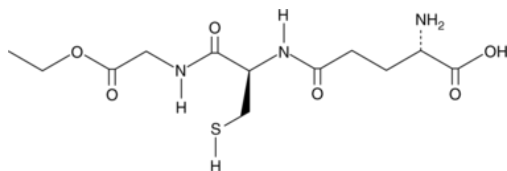
Formula $C_{12}H_{21}N_3O_6S$ M.Wt 335.4

Solubility PBS (pH 7.2): 10 mg/ml, Water: 20 mg/ml Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Background

Glutathione (GSH) serves as a nucleophilic co-substrate to glutathione transferase in the detoxification of xenobiotics and is an essential electron donor to glutathione peroxidases in the reduction of hydroperoxides.[1] [2][3] GSH ethyl ester is a cell-permeable derivative of GSH that undergoes hydrolysis by intracellular esterases to release GSH. [4] Effective transport of GSH ethyl ester has been used to protect cells against damage from radiation, oxidants, and various toxic compounds including heavy metals.[5] [6]

Reference:

[1]. Jakoby, W.B. The glutathione S-transferases: A group of multifunctional detoxification proteins. *Advances in Enzymology and Related Areas of Molecular Biology* 46, 383-414 (1978).

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

- [2]. Baillie, T.A., and Slatter, J.G. Glutathione: A vehicle for the transport of chemically reactive metabolites in vivo. *Acc. Chem. Res.* 24(9), 264-270 (1991).
- [3]. Bedia, C. Glutathione: Metabolism and function. (1976).
- [4]. Wellner, V.P., Anderson, M.E., Puri, R.N., et al. Radioprotection by glutathione ester: Transport of glutathione ester into human lymphoid cells and fibroblasts. *Proceedings of the National Academy of Sciences of the United States of America* 81(15), 4732-4735 (1984).
- [5]. Zeevalk, G.D., Manzino, L., Sonsalla, P.K., et al. Characterization of intracellular elevation of glutathione (GSH) with glutathione monoethyl ester and GSH in brain and neuronal cultures: Relevance to Parkinson's disease. *Experimental Neurology* 203(2), 512-520 (2007).
- [6]. Kelly-Aubert, M., Trudel, S., Fritsch, J., et al. GSH monoethyl ester rescues mitochondrial defects in cystic fibrosis models. *Human Molecular Genetics* 20(14), 2745-2759 (2011).

Caution: Product has not been fully validated for medical applications. For research use only.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA