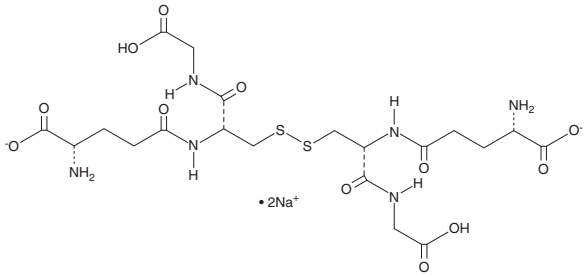
PRODUCT INFORMATION

L-Glutathione, oxidized (sodium salt)

Item No. 15491

CAS Registry No.: 103239-24-3
Formal Name: L-γ-glutamyl-L-cysteinyl-bimol-(2→2')-disulfide-glycine, disodium salt
Synonym: GSSG
MF: $C_{20}H_{30}N_6O_{12}S_2 \bullet 2Na$
FW: 656.6
Purity: ≥98%
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

L-Glutathione, oxidized (GSSG) (sodium salt) is supplied as a crystalline solid. GSSG (sodium salt) is sparingly soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide.

Aqueous solutions of GSSG (sodium salt) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of GSSG (sodium salt) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Glutathione can occur in reduced (GSH), oxidized, or in mixed disulfide forms and is ubiquitous in multiple biological systems serving as the major thiol-disulfide redox buffer of the cell.[1] GSSG is the oxidized form of GSH (Item No. 10007461). It can be reduced back to GSH through the NADPH-dependent enzyme glutathione reductase.[1] GSSG functions as a hydrogen acceptor in the enzymatic determination of $NADP^+$ and NADPH and can be a proximal donor in S-glutathionylation post translational modifications.[2] The ratio of reduced glutathione to oxidized glutathione within cells is often used as an indicator of oxidative stress, with higher concentrations of GSSG predicting increased oxidative stress.[3]

References

1. Pompella, A., Visvikis, A., Paolicchi, A., *et al*. The changing faces of glutathione, a cellular protagonist. *Biochem. Pharmacol*. **66,** 1499-1503 (2003).
2. Giustarini, D., Rossi, R., Milzani, A., *et al*. S-glutathionylation: From redox regulation of protein functions to human diseases. *J. Cell. Mol. Med*. **8(2)**, 201-212 (2004).
3. Schafer, F.Q. and Buettner, G.R. Redox environment of the cell as viewed through the redox state of the glutathione disulfide/glutathione couple. *Free Radic. Biol. Med*. **30(11)**, 1191-1212 (2001).

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