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Product Information

L-Glutathione reduced

Product Number **G4251**

Storage Temperature 2-8 °C

Product Description

Molecular Formula: C₁₀H₁₇N₃O₆S

Molecular Weight: 307.3

CAS Number: 70-18-8

pK_a:

pK₁ = 2.12, pK₂ = 3.53, pK₃ = 8.66, pK₄ = 9.12^{1,2}

pK₁ = 2.12 (COOH), pK₂ = 3.59 (COOH), pK₃ = 8.75 (NH₂), pK₄ = 9.65 (SH)³

Melting Point: 190-192 °C with decomposition^{3,4}

Specific Rotation: -18.9° (c = 4.653% at 25 °C)¹

Midpoint Reducing Potential: -0.23 V⁵

Synonym: GSH

Glutathione is the major low molecular weight thiol compound of the living plant or animal cell.¹ Blood, brain concentrations⁶ and mouse tissue concentrations⁷ are reported in the literature as well as a review on reduced glutathione.⁸

Other selected references discuss the role of glutathione in lymphocyte activation,⁹ how glutathione reverses inhibition of macromolecular synthesis in *E. coli* by TLCK,¹⁰ glutathione enhancement in mouse organs via treatment with glutathione esters,^{11,12} enzymatic determination of glutathione,¹³ glutathione-S-transferases catalyzes reaction of alkylating agents with glutathione,¹⁴ and the suppression of human immunodeficiency virus expression in chronically infected monocytic cells by glutathione, glutathione ester and N-acetylcysteine.¹⁵

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

GSH is soluble in water (50 mg/ml).

Reduced glutathione is freely soluble in water, dilute alcohol, liquid ammonia, and DMF.¹

Storage/Stability

Aqueous solutions readily oxidize in air to oxidized glutathione, GSSG.³

Half-lives of reduced glutathione in solution at various pHs and temperatures have been reported.¹⁶ The half-life of reduced glutathione is increased in the presence of a chelating agent.

References

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