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L-Cystine, from non-animal source
Cell culture tested, meets EP testing specifications

Product Number **C7602**
Store at Room Temperature

Product Description

Molecular Formula: $C_6H_{12}N_2O_4S_2$
Molecular Weight: 240.3
CAS Number: 56-89-3
Synonyms: [*R*-(*R**,*R**)]-3,3'-dithiobis[2-aminopropanoic acid], dicysteine, β, β'-dithiodialanine[1]

This product is tested for endotoxin levels and suitability for cell culture experiments.

Cystine is a derived amino acid that is formed from the oxidative linkage of two cysteine residues to give a disulfide covalent bond. Cystines form in many proteins after incorporation of free cysteines into the primary structure to stabilize their folded conformation. Cystine is the form in which cysteine exists in blood and urine.[2]

The two cystine-related clinical conditions are cystinuria, which involves the defective membrane transport of cystine, and cystinosis, the accumulation of cystine in lysosomes.[2,3,4] A review of cystine transport into rat brain cells has been published.[5] An investigation into cysteine and cystine levels in normal and malignant cells with a relationship to γ-cystathionase levels and tumor sensitivity to L-cysteine and cystine depletion has been reported.[6]

Mass spectrometry (GC-MS) methods for the analysis of cystine from granulocytes of cystinosis patients[7] and in the urine of homocystinuria patients[8] have been published.

Precautions and Disclaimer

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

Preparation Instructions

This product is soluble in 1 M HCl (100 mg/ml), with heat as needed. The solubility of cystine in water is 0.112 mg/ml at 25 °C; cystine is more soluble in aqueous solutions with pH < 2 or pH > 8.[1]

References

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4. Gahl, W. A., et al., Cystinosis. N. Engl. J. Med., **347(2)**, 111-121 (2002).
5. McBean, G. J., and Flynn, J., Molecular mechanisms of cystine transport. Biochem. Soc. Trans., **29(Pt 6)**, 717-722 (2001).
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8. Kuhara, T., et al., Differential diagnosis of homocystinuria by urease treatment, isotope dilution and gas chromatography-mass spectrometry. J. Chromatogr. B Biomed. Sci. Appl., **742(1)**, 59-70 (2000).

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