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Product Information

L-Histidinol dihydrochloride

Product Number **H 6647**
Store at Room Temperature

Product Description

Molecular Formula: $C_6H_{11}N_3O \cdot 2HCl$
Molecular Weight: 214.1
CAS Number: 1596-64-1
Melting point: 193-195 °C¹

L-Histidinol is a potent and reversible inhibitor of protein synthesis in cultured human cells² and is a precursor of histidine in procaryotes and some eukaryotes. Histidinol does not significantly affect histidine transport into cells, but most likely inhibits protein synthesis by decreasing the activation of histidine. Histidinol competitively inhibits the pyrophosphate-ATP exchange reaction that is promoted by histidyl-tRNA synthetase in the presence of histidine. When culture media contains 5 μ M histidine, protein synthesis is inhibited 50% in the presence of 0.1 mM histidinol.²

A procedure has been published for the use of histidinol in cell culture mutant selection.³ Histidinol has been used as a substrate for histidinol dehydrogenase from *Salmonella typhimurium* at 1.5 mM.^{4,5}

Precautions and Disclaimer

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

Preparation Instructions

Histidinol is soluble in water (50 mg/ml), yielding a clear, colorless solution.

Storage/Stability

A 5% aqueous solution of histidinol is stable at room temperature for a minimum of 24 hours. Frozen stock solutions of histidinol are not recommended for use after one month.

References

1. Dictionary of Organic Compounds, 5th ed., Chapman and Hall (New York, NY: 1982), Entry# A-01868.
2. Hansen, B. S., et al., Reversible Inhibition by Histidinol of Protein Synthesis in Human Cells at the Activation of Histidine. *J. Biol. Chem.*, **247(12)**, 3854-3857 (1972).
3. Thompson, L. H., Mutant Isolation. *Meth. Enzymol.*, **58**, 308-322 (1979).
4. Grubmeyer, C. T., and Gray, W. R., A Cysteine Residue (Cysteine-116) in the Histidinol Binding Site of Histidinol Dehydrogenase. *Biochemistry*, **25(17)**, 4778-4784 (1986).
5. Burger, E., et al., The Catalytically Active Form of Histidinol Dehydrogenase from *Salmonella Typhimurium*. *Biochem. J.*, **181(3)**, 771-774 (1979).

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