

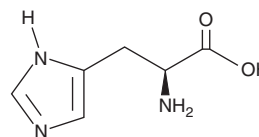
PRODUCT INFORMATION



Histidine

Item No. 33904

CAS Registry No.: 71-00-1
Formal Name: L-histidine
Synonyms: Glyoxaline-5-Alanine, NSC 137773
MF: C₆H₉N₃O₂
FW: 155.2
Purity: ≥95%
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Histidine is supplied as a solid. Aqueous solutions of histidine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of histidine in PBS (pH 7.2) is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Histidine is an essential amino acid.¹ It serves as a substrate for histidine decarboxylase (HDC) in the biosynthesis of histamine (Item No. 33828) and for carnosine synthase 1 in the biosynthesis of L-carnosine (Item No. 29825) and homocarnosine (Item No. 33695).^{1,2} Histidine (10-50 mM) scavenges hydroxyl radicals in cell-free assays.³ It inhibits biofilm formation by several strains of *S. cerevisiae* when used at a concentration of 10 mM.⁴ Histidine (100 mg/kg) decreases brain water content in a rat model of acute liver failure (ALF) induced by thioacetamide.⁵ Formulations containing histidine have been used as dietary supplements.

References

1. Holeček, M. Histidine in health and disease: Metabolism, physiological importance, and use as a supplement. *Nutrients* **12**(3), 848 (2020).
2. Skaper, S.D., Das, S., and Marshall, F.D. Some properties of a homocarnosine-carnosine synthetase isolated from rat brain. *J. Neurochem.* **21**(6), 1429-1445 (1973).
3. Zs-Nagy, I. and Floyd, R.A. Hydroxyl free radical reactions with amino acids and proteins studied by electron spin resonance spectroscopy and spin-trapping. *Biochim. Biophys. Acta* **790**(3), 238-250 (1984).
4. Zeidan, M.B., Zara, G., Viti, C., et al. L-Histidine inhibits biofilm formation and *FLO11*-associated phenotypes in *Saccharomyces cerevisiae* flor yeasts. *PLoS One* **9**(11), e112141 (2014).
5. Rao, K.V.R., Reddu, P.V.B., Tong, X., et al. Brain edema in acute liver failure: Inhibition by L-histidine. *Am. J. Pathol.* **176**(3), 1400-1408 (2010).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY

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