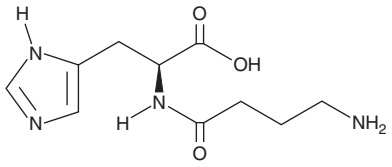
PRODUCT INFORMATION

Homocarnosine

Item No. 33695

CAS Registry No.:	3650-73-5
Formal Name:	N-(4-amino-1-oxobutyl)-L-histidine
Synonyms:	γ-Aminobutyrylhistidine, γ-Aminobutyryl-L-histidine, NSC 92522
MF:	$C_{10}H_{16}N_4O_3$
FW:	240.3
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

Homocarnosine is supplied as a solid. A stock solution may be made by dissolving the homocarnosine in the solvent of choice, which should be purged with an inert gas. Homocarnosine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of homocarnosine in these solvents is approximately 1, 10, and 30 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of homocarnosine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of homocarnosine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Homocarnosine is a dipeptide composed of GABA and L-histidine that has been found in cerebrospinal fluid and the brain.[1] It inhibits lipid peroxidation induced by AAPH (Item No. 82235) when used at a concentration of 10 mM.[2] Homocarnosine (1 mM) decreases lactate dehydrogenase (LDH) and prostaglandin E_2 (PGE_2; Item No. 14010) release from PC12 cells in an *in vitro* model of ischemia induced by oxygen-glucose deprivation.[3] It reduces infarct area and neurological deficit scores in a rat model of cerebral ischemia-reperfusion injury induced by middle cerebral artery occlusion (MCAO).[4] Homocarnosine (5 mg/animal) reduces mortality in a mouse model of subcutaneous *S. aureus* infection.[5]

References

1. Crush, K.G. Carnosine and related substances in animal tissues. *Comp. Biochem. Physiol.* **34(1)**, 3-30 (1970).
2. Kohen, R., Yamamoto, Y., Cundy, K.C., *et al.* Antioxidant activity of carnosine, homocarnosine, and anserine present in muscle and brain. *Proc. Natl. Acad. Sci. USA* **85(9)**, 3175-3179 (1988).
3. Tabakman, R., Lazarovici, P., and Kohen, R. Neuroprotective effects of carnosine and homocarnosine on pheochromocytoma PC12 cells exposed to ischemia. *J. Neurosci. Res.* **68(4)**, 463-469 (2002).
4. Huang, J., Wang, T., Yu, D., *et al.* L-Homocarnosine attenuates inflammation in cerebral ischemia-reperfusion injury through inhibition of nod-like receptor protein 3 inflammasome. *Int. J. Biol. Macromol.* **118(Pt A)**, 357-364 (2018).
5. Mukkada, A.J., Nutini, L.G., and Cook, E.S. Prophylactic effects of γ-aminobutyrylhistidine (homocarnosine) on experimental staphylococcal infections in mice. *Appl. Microbiol.* **18(4)**, 641-645 (1969).

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM