

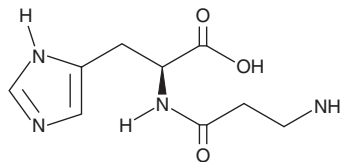
# PRODUCT INFORMATION



## L-Carnosine

Item No. 29825

**CAS Registry No.:** 305-84-0  
**Formal Name:**  $\beta$ -alanyl-L-histidine  
**Synonyms:**  $\beta$ -Alanylhistidine, NSC 524045  
**MF:**  $C_9H_{14}N_4O_3$   
**FW:** 226.2  
**Purity:**  $\geq 95\%$   
**Supplied as:** A crystalline solid  
**Storage:**  $-20^\circ\text{C}$   
**Stability:**  $\geq 4$  years



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

### Laboratory Procedures

L-Carnosine is supplied as a crystalline solid. Aqueous solutions of L-carnosine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of L-carnosine in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

### Description

L-Carnosine is a dipeptide composed of  $\beta$ -alanine and L-histidine that has been found in rat olfactory bulb, skeletal muscle, brain, kidney, and spleen tissues, as well as human skeletal muscle, and has diverse biological activities.<sup>1</sup> It is a metal chelator that forms complexes with copper, cobalt, nickel, cadmium, or zinc. Dietary administration of L-carnosine (60 mg/kg per day) reduces plasma levels of advanced glycation end products (AGEs) in diabetic rats.<sup>2</sup> It reduces brain edema, blood-brain barrier disruption, microglial activation, and neuronal apoptosis in a rat model of intracerebral hemorrhage when administered at a dose of 1,000 mg/kg.<sup>3</sup> L-Carnosine (250, 500, and 1,000 mg/kg, i.p.) reduces hepatic protein carbonylation and necrosis in a rat model of cirrhosis induced by bile duct ligation.<sup>4</sup> It also reduces lung myeloperoxidase (MPO) activity, production of reactive oxygen species (ROS), and TNF- $\alpha$  and IL-6 levels, as well as alveolar hemorrhage, interstitial edema, and pulmonary leukocyte infiltration in a mouse model of LPS-induced lung injury.<sup>5</sup>

### References

1. Boldyrev, A.A., Aldini, G., and Derave, W. Physiology and pathophysiology of carnosine. *Physiol. Rev.* **93**(4), 1803-1845 (2013).
2. Ghodsi, R. and Kheirouri, S. Carnosine and advanced glycation end products: A systematic review. *Amino Acids* **50**(9), 1177-1186 (2018).
3. Xie, R.-x., Li, D.-w., Liu, X.-c., et al. Carnosine attenuates brain oxidative stress and apoptosis after intracerebral hemorrhage in rats. *Neurochem. Res.* **42**(2), 541-551 (2017).
4. Jamshidzadeh, A., Heidari, R., Latifpour, Z., et al. Carnosine ameliorates liver fibrosis and hyperammonemia in cirrhotic rats. *Clin. Res. Hepatol. Gastroenterol.* **41**(4), 424-434 (2017).
5. Tanaka, K.I., Sugizaki, T., Kanada, Y., et al. Preventive effects of carnosine on lipopolysaccharide-induced lung injury. *Sci. Rep.* **7**:42813 (2017).

#### 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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