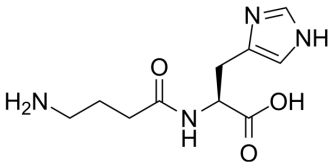
Homocarnosine

Cat. No.:	HY-114883
CAS No.:	3650-73-5
Molecular Formula:	$C_{10}H_{16}N_4O_3$
Molecular Weight:	240.26
Target:	Endogenous Metabolite; GABA Receptor
Pathway:	Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Homocarnosine is a dipeptide of γ-aminobutyric acid (GABA) and histidine unique to brain. Homocarnosine is an inhibitory neuromodulator synthesized in the neuron from GABA and exhibiting anticonvulsant effects[1].Homocarnosine has antioxidant and anti-inflammatory actions, prevention of DNA damage, and inhibition of advanced glycation end-product formation[2].
IC_{50} & Target	Human Endogenous Metabolite
In Vitro	Homocarnosine, a dipeptide of γ-aminobutyric acid (GABA) and histidine, is an inhibitory neuromodulator synthesized in subclasses of GABAergic neurons[1].Homocarnosine is a potent alternative imidazole peptide for skeletal muscle based on its structural similarity to Carnosine. Homocarnosine is composed of γ-aminobutyric acid (GABA) and histidine and has a similar structure to Carnosine, with the only difference being an extra carbon atom in GABA compared to that in β-alanine of carnosine. Homocarnosine possesses greater tolerance to degradation by serum carnosinase relative to Carnosine. Homocarnosine is known to be exclusively present in brain and cerebrospinal fluid and acts as a neuroprotective agent in a broad range of disease conditions. Homocarnosine exerts antioxidant activity and prevent DNA oxidative damage to a similar extent as Carnosine[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. O A Petroff, et al. Vigabatrin increases human brain homocarnosine and improves seizure control. Ann Neurol. 1998 Dec;44(6):948-52.

[2]. Thanutchaporn Kumrungsee, et al. Dietary GABA induces endogenous synthesis of a novel imidazole peptide homocarnosine in mouse skeletal muscles. Amino Acids. 2020 May;52(5):743-753.

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