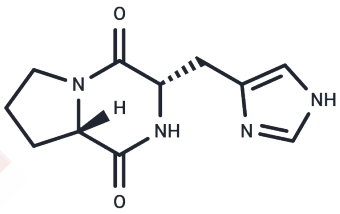
Data Sheet (Cat.No.T7511)

TargetMol

Cyclo(his-pro)

Chemical Properties



CAS No. :	53109-32-3
Formula:	C11H14N4O2
Molecular Weight:	234.25
Storage:	Keep away from moisture Pure form: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Cyclo(his-pro) is an endogenous cyclic dipeptide that exerts oxidative damage protection by selectively activating the transcription factor Nrf2 signalling pathway.
Targets(IC50)	NF-κB,Endogenous Metabolite
In vivo	cyclo(His-Pro) inhibits NF-κB nuclear accumulation induced by paraquat in rat pheochromocytoma PC12 cells via the Nrf2/heme oxygenase-1 pathway.?The protection required functional heme oxygenase-1 activity, since zinc protoporphyrin IX, a heme oxygenase-1 inhibitor, prevented NF-κB inhibition, and the presence of exogenous carbon monoxide and bilirubin afforded cytoprotection against paraquat-induced toxicity by preventing NF-κB activation.?Cyclooxygenase-2 and matrix metalloproteinase 3, two gene products governed by NF-κB, were down-regulated by cyclo(His-Pro) and up-regulated in heme oxygenase-1 knock-down cells.?We validated the general mechanism underlying the anti-inflammatory effects by treating PC12 and murine microglial BV2 cells with different pro-inflammatory agents.?Finally, cyclo(His-Pro) reduced 12-otetradecanoylphorbol-13-acetate-induced oedema in mouse ear inflammation model.?Results, by showing that cyclo(His-pro) suppresses the pro-inflammatory NF-κB signalling via the Nrf2-mediated heme oxygenase-1 activation, contribute to the understanding of essential cellular pathways and allow the proposal of cyclo(His-Pro) as an in vivo anti-inflammatory compound[1].

Solubility Information

Solubility	H2O: 2.35 mg/mL (10.03 mM),Sonication is recommended. DMSO: 250 mg/mL (1067.24 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.2689 mL	21.3447 mL	42.6894 mL
5 mM	0.8538 mL	4.2689 mL	8.5379 mL
10 mM	0.4269 mL	2.1345 mL	4.2689 mL
50 mM	0.0854 mL	0.4269 mL	0.8538 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Minelli A , Grottelli S , Mierla A , et al. Cyclo(His-Pro) exerts anti-inflammatory effects by modulating NF-κB and Nrf2 signalling[J]. International Journal of Biochemistry & Cell Biology, 2012, 44(3):0-535.

Bellezza I , Grottelli S , Mierla A L , et al. Neuroinflammation and endoplasmic reticulum stress are coregulated by cyclo(His-Pro) to prevent LPS neurotoxicity[J]. The International Journal of Biochemistry & Cell Biology, 2014, 51: 159-169.

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