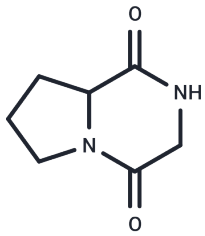
Data Sheet (Cat.No.TN6674)

TargetMol

Cyclo-(Pro-Gly)

Chemical Properties



CAS No. : 19179-12-5

Formula: C7H10N2O2

Molecular Weight: 154.17

Storage: Powder: -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-(Pro-Gly) is an alkaloid with weak antibacterial activity and antioxidant properties that can inhibit Chitinase B and scavenge free radicals. It is widely used in biochemical experiments and drug synthesis research.
Targets(IC50)	Antioxidant,Antibacterial
In vitro	METHODS AND RESULTS:In the present study, an endophytic fungus isolate FTJZZJ09, which isolated from the fresh bulbs of Fritillaria thunbergii Miq., was identified as Penicillium chrysogenum based on its morphological characters and internal transcribed spacer (ITS) sequence. After being cultured in the modified CzapeK-DoX medium (3 g/L maltose, 3 g/L peptone A, 0.1 g/L K2HPO4, 0.05 g/L KCl, 0.3 g/L NaNO3, 0.05 g/L MgSO4·7H2O, 0.001 g/L FeSO4·7H2O, pH 6.5), it can secrete antibacterial metabolites under the condition of 28 °C in a rotary shaker at 160 r/min for 7 days. Three antibacterial compounds were isolated from the ethyl acetate extract of the fermentation broth by silica gel, they were elucidated as Cyclo(Pro-Gly) , cyclo (Pro-Val) and 2-acetyl-4 (3H) quinazolinone. CONCLUSIONS: All the three compounds could inhibit the growth of Bacillus subtilis with the minimal inhibitory concentration (MIC) value of 0.8, 0.8, and 0.4 g/L respectively, while they showed no apparent effects against the growth of Gram-negative bacteria.
In vivo	Cyclo-(Pro-Gly) (0.1, 10 mg/kg, intraperitoneal injection) administered to rats appears to be a memory-enhancing substance in rats, suggesting the existence of a new memory regulation mechanism in rats. [1]

Solubility Information

Solubility	DMSO: 80 mg/mL (518.91 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween-80+45% Saline: 5 mg/mL (32.43 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	6.4863 mL	32.4317 mL	64.8635 mL
5 mM	1.2973 mL	6.4863 mL	12.9727 mL
10 mM	0.6486 mL	3.2432 mL	6.4863 mL
50 mM	0.1297 mL	0.6486 mL	1.2973 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

T A Gudasheva, et al. Identification of a Novel Endogenous Memory Facilitating Cyclic Dipeptide Cyclo-Prolylglycine in Rat Brain. FEBS Lett. 1996 Aug 5;391(1-2):149-52.
Fumitaka Hayasaka, et al. Production Method for Cyclic Dipeptide Derived from Native Collagen. Food Science and Technology Research, 22 (4), 477-483, 2016.
Ying-ying Sun, et al. Isolation, Purification, and Identification of Antialgal Substances in Green Alga Ulva Prolifera for Antialgal Activity Against the Common Harmful Red Tide Microalgae. Environ Sci Pollut Res Int. 2016 Jan;23(2): 1449-59.