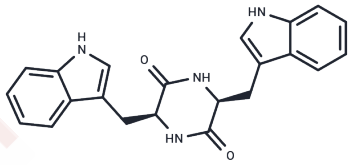
Data Sheet (Cat.No.T19717)

TargetMol

Cyclo-L-Trp-L-Trp

Chemical Properties



CAS No. : 20829-55-4

Formula: C22H20N4O2

Molecular Weight: 372.42

Storage: Keep away from moisture
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-L-Trp-L-Trp is a broad-spectrum antifungal. It also induces a high degree of acetylation of histones.
Targets(IC50)	Antibacterial,Antibiotic,Antifungal
In vitro	Two novel cyclic hexapeptides designated actinosynneptides A (1) and B (2), together with three tryptophan containing diketopiperazines, namely cyclo(L-Trp-L-Trp) (3), cyclo (L-Trp-N-MeL-Trp) (4), and cyclo(N-MeL-Trp-N-MeL-Trp) (5), were isolated from the culture of the genetically engineered strain HGF052::asm18 derived from Actinosynnema pretiosum ATCC31565. Their structures were elucidated on the basis of spectroscopic analyses and single-crystal X-ray diffractions. Compound 1 is the first example of 3-amino-6-hydroxy-2-piperidone-containing cyclic peptides, and 1 and 2 showed moderate cytotoxic activities against HeLa and PC3 cell lines[1].

Solubility Information

Solubility	DMSO: 71.4 mg/mL (191.72 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 7.14 mg/mL (19.17 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 7.14 mg/mL (19.17 mM),Solution. *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	2.6851 mL	13.4257 mL	26.8514 mL
5 mM	0.537 mL	2.6851 mL	5.3703 mL
10 mM	0.2685 mL	1.3426 mL	2.6851 mL
50 mM	0.0537 mL	0.2685 mL	0.537 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

Lu C, Xie F, Shan C, Shen Y. Two novel cyclic hexapeptides from the genetically engineered Actinosynnema pretiosum. Appl Microbiol Biotechnol. 2017 Mar;101(6):2273-2279. doi: 10.1007/s00253-016-8017-3. Epub 2016 Dec 2. PubMed PMID: 27913850.

James ED, Knuckley B, Alqahtani N, Porwal S, Ban J, Karty JA, Viswanathan R, Lane AL. Two Distinct Cyclodipeptide Synthases from a Marine Actinomycete Catalyze Biosynthesis of the Same Diketopiperazine Natural Product. ACS Synth Biol. 2016 Jul 15;5(7):547-53. doi: 10.1021/acssynbio.5b00120. Epub 2015 Dec 9. PubMed PMID: 26641496.

Alqahtani N, Porwal SK, James ED, Bis DM, Karty JA, Lane AL, Viswanathan R. Synergism between genome sequencing, tandem mass spectrometry and bio-inspired synthesis reveals insights into nocardioazine B biogenesis. Org Biomol Chem. 2015 Jul 14;13(26):7177-92. doi: 10.1039/c5ob00537j. Epub 2015 May 29. Erratum in: Org Biomol Chem. 2015 Sep 21;13(35):9323. PubMed PMID: 26022437.

Li XB, Li YL, Zhou JC, Yuan HQ, Wang XN, Lou HX. A new diketopiperazine heterodimer from an endophytic fungus Aspergillus niger. J Asian Nat Prod Res. 2015;17(2):182-7. doi: 10.1080/10286020.2014.959939. Epub 2014 Nov 17. PubMed PMID: 25401948.