Data Sheet (Cat.No.T16497)

TargetMol

PF 1022A

Chemical Properties

CAS No. : 133413-70-4

Formula: C52H76N4O12

Molecular Weight: 949.18

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	PF 1022A is a cyclooctadepsipeptide natural product produced by fungal fermentation with anthelmintic activity. As an ionophore-like compound, PF 1022A forms complexes with metal ions and disrupts ion homeostasis and membrane potential in parasites, leading to its anthelmintic effects. It shows significant activity against the poultry nematode Ascaridia galli.
Targets(IC50)	Parasite
In vitro	PF1022A is a novel anthelmintic that binds to the latrophilin-like transmembrane receptor important for pharyngeal pumping in nematodes. PF1022A binds to GABA receptors, which might contribute to the anthelmintic effect. Like other cyclodepsipeptides, PF1022A acts as an ionosphere. PF 1022A showed strong anthelmintic activities against Ascaridia galli in chickens. PF1022A showed low activity on embryonation but significantly inhibited egg hatch (10 and 100 μg/ml), whereas albendazole (10 and 100 μg/ml) revealed statistically significant inhibitions of both embryonation and egg hatch. PF1022A (1-100 μg/ml) fullly inhibited larval movement at most examination points [1][2][3].

Solubility Information

Solubility	DMSO: 80 mg/mL (84.28 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Corn Oil: 2 mg/mL (2.11 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	1.0535 mL	5.2677 mL	10.5354 mL
5 mM	0.2107 mL	1.0535 mL	2.1071 mL
10 mM	0.1054 mL	0.5268 mL	1.0535 mL
50 mM	0.0211 mL	0.1054 mL	0.2107 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

Sasaki T, et al. A new anthelmintic cyclodepsipeptide, PF1022A. J Antibiot (Tokyo). 1992 May;45(5):692-7.
Dornetshuber R, et al. Effects of the anthelmintic drug PF1022A on mammalian tissue and cells. Biochem Pharmacol. 2009 Apr 15;77(8):1437-44.
Nwosu U, et al. Efficacy of the cyclooctadepsipeptide PF1022A against Heligmosomoides bakeri in vitro and in vivo. Parasitology. 2011 Aug;138(9):1193-201.

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