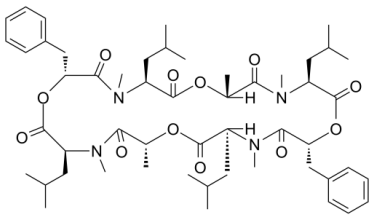
Data Sheet

Product Name:	PF 1022A
Cat. No.:	CS-3377
CAS No.:	133413-70-4
Molecular Formula:	C52H76N4O12
Molecular Weight:	949.18
Target:	Parasite
Pathway:	Anti-infection
Solubility:	DMSO : ≥ 43 mg/mL (45.30 mM)



BIOLOGICAL ACTIVITY:

PF 1022A is a N-methylated cyclooctadepsipeptides (CODPs) with strong anthelmintic properties; acts as an ionophore. IC50 value: Target: PF 1022A showed strong anthelmintic activities against Ascaridia galli in chickens [1]. PF1022A is a novel anthelmintic that binds to the latrophilin-like transmembrane receptor important for pharyngeal pumping in nematodes. Furthermore, PF1022A binds to GABA receptors, which might contribute to the anthelmintic effect. Like other cyclodepsipeptides, PF1022A acts as an ionophore [2]. In vitro, 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) completely inhibited larval movement at most examination points [3].

References:

[1]. Sasaki T, et al. A new anthelmintic cyclodepsipeptide, PF1022A. J Antibiot (Tokyo). 1992 May;45(5):692-7.

[2]. Dornetshuber R, et al. Effects of the anthelmintic drug PF1022A on mammalian tissue and cells. Biochem Pharmacol. 2009 Apr 15;77(8):1437-44.

[3]. Nwosu U, et al. Efficacy of the cyclooctadepsipeptide PF1022A against Heligmosomoides bakeri in vitro and in vivo. Parasitology. 2011 Aug;138(9):1193-201.

CAIndexNames:

Cyclo[(αR)-α-hydroxybenzenepropanoyl-N-methyl-L-leucyl-(2R)-2-hydroxypropanoyl-N-methyl-L-leucyl-(αR)-α-hydroxybenzenepropanoyl-N-methyl-L-leucyl-(2R)-2-hydroxypropanoyl-N-methyl-L-leucyl]

SMILES:

O=C(N([C@H](C(O[C@](C(N([C@H](C(O[C@H](CC1=CC=CC=C1)C2=O)=O)CC(C)C)C)=O)([H])C)=O)CC(C)C)C)[C@H](OC([C@@H](N(C([C@H](OC([C@](N2C)([H])CC(C)C)=O)C)=O)C)CC(C)C)=O)CC3=CC=CC=C3

Caution: Product has not been fully validated for medical applications. For research use only.

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