Product Data Sheet

Chemical Properties

Product Name: PF 1022A
Cas No.: 133413-70-4
M.Wt: 949.18
Formula: C52H76N4O12

Chemical Name: \((3S,6R,9S,12R,15S,18R,21S,24R)-6,18\text{-dibenzyl}-3,9,15,21\text{-tetraisobutyl}-4,10,12,16,22,24\text{-hexamethyl}-1,7,13,19\text{-tetraoxa}-4,10,16,22\text{-tetraazacyclotetracosan}-2,5,8,11,14,17,20,23\text{-octaone}\)

Canonical SMILES: 

Solubility: \(\geq 31.75\text{mg/mL in DMSO}\)

Storage: Desiccate at -20°C

General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Others
Pathways: Others

Description:
PF1022A is a novel anthelmintic cyclodepsipeptide. It was isolated from cultured mycelia of PF1022 Mycelia Sterilia, and exhibited strong anthelmintic activities against Ascaridia galli in
chickens. [2] PF1022A seems to be a safe alternative to other anthelmintic drugs [1].

PF1022 is consisted of four alternating residues of N-methyl-L-leucine and four residues of D-phenyl-lactate or D-lactate [3]. PF1022A binds to the latrophilin-like transmembrane receptor and is important for pharyngeal pumping in nematodes. Furthermore, PF1022A binds to GABA receptors, which might contribute to the anthelmintic effect. PF1022A acts as an ionophore. In necrotic cells, PF1022A did not induce cell death indicated by lack of cellular lactate dehydrogenase release. PF1022A-induced cytotoxicity is impacted on the cell cycle and apoptosis regulating proteins p53, bax and p21, but not Bcl-2.

The efficacy of PF 1022A was investigated against the following parasite species: Strongyloides ratti and Nippostrongylus brasiliensis in rats, Ancylostoma caninum in dogs, Trichostrongylus colubriformis and Haemonchus contortus in sheep, small strongyles (cyathostomes) in horses, and Dictyocaulus viviparus in cattle. Oral, subcutaneous or intravenous application at doses varied from 1 to 10 mg/kg body weight was compared in livestock animals. High degrees of efficacy were found in all the above-cited examinations, and no clinical signs of impatience were observed. [4]

Reference:

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.