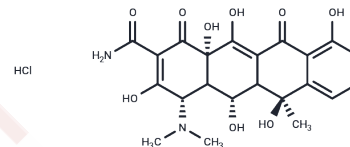


Aquacycline

Chemical Properties

CAS No. :	423769-22-6
Formula:	C ₂₂ H ₂₅ ClN ₂ O ₉
Molecular Weight:	496.895
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	Oxytetracycline (OTC) is a broad-spectrum antibiotic that acts by inhibiting protein synthesis in bacteria. Oxytetracycline prevents the binding from aminoacyl-tRNA to the complex m-ribosomal RNA. Oxytetracycline also possesses anti-HSV-1 activity[1][2][3].
Targets(IC50)	Antibiotic,HSV
In vitro	Oxytetracycline is an important member of the bacterial aromatic polyketide family, which is a structurally diverse class of natural products. Oxytetracycline is synthesized by a type II polyketide synthase that generates the poly-beta-ketone backbone through successive decarboxylative condensation of malonyl-CoA extender units, followed by modifications by cyclases, oxygenases, transferases, and additional tailoring enzymes [2].
In vivo	For Oxytetracycline, the limits are 100 µg/kg in muscle and milk, 200 µg/kg in egg, 300 µg/kg in liver and 600 µg/kg in kidney. Oxytetracycline (OTC) is administered to fish as medicated feed at concentrations ranging from 35 to 75 mg a.i kg ⁻¹ biomass day ⁻¹ for 7-14 days[1]. The effects of administration a therapeutic dose of Oxytetracycline (82.8 mg/kg of bw to 1 % bw/day) for 10 days are species specific. Oxytetracycline increases the relative liver weight in <i>Morone chrysops</i> x <i>M. saxatilis</i> , the enzymatic activity of CYP3A4 in <i>Ictalurus punctatus</i> , protein expression of CYP3A4 in <i>Oreochromis niloticus</i> and depleted the hepatic CYP3A4 in the latter[1].

Solubility Information

Solubility	DMSO: 55 mg/mL (110.69 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.0125 mL	10.0624 mL	20.1248 mL
5 mM	0.4025 mL	2.0125 mL	4.025 mL
10 mM	0.2012 mL	1.0062 mL	2.0125 mL
50 mM	0.0402 mL	0.2012 mL	0.4025 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

Elia, A.C, et al. Transferability of oxytetracycline (OTC) from feed to carp muscle and evaluation of the antibiotic effects on antioxidant systems in liver and kidney. *Fish Physiol Biochem*, 2014.

Pickens LB, et al. Oxytetracycline biosynthesis. *J Biol Chem*. 2010 Sep 3;285(36):27509-15.

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