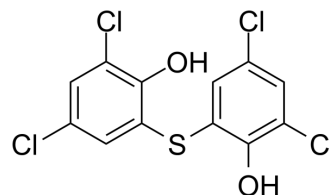


Bithionol

Cat. No.:	HY-17592		
CAS No.:	97-18-7		
Molecular Formula:	C ₁₂ H ₆ Cl ₄ O ₂ S		
Molecular Weight:	356.05		
Target:	Parasite; Bacterial		
Pathway:	Anti-infection		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 33 mg/mL (92.68 mM)
 * "≥" means soluble, but saturation unknown.

	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	2.8086 mL	14.0430 mL	28.0859 mL
	5 mM	0.5617 mL	2.8086 mL	5.6172 mL
	10 mM	0.2809 mL	1.4043 mL	2.8086 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.08 mg/mL (5.84 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.08 mg/mL (5.84 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Bithionol is an antibacterial, anthelmintic, and algacide agent. Bithionol is also a potent inhibitor of soluble adenylyl cyclase through binding to the allosteric activator site (IC₅₀: 4 μM)^{[1][2]}.

IC₅₀ & Target

Adenylyl cyclase^[2]

In Vitro

Bithionol (0.1-10 mg/mL, 72 h) shows toxicity to Neoparamoeba spp parasites in sea water^[1].
 Bithionol (0-100 μM) inhibits adenylyl cyclase (AC) activity with an IC₅₀ value of 4 μM^[2].
 Bithionol (50 and 100 μM, 0-10 min) decreases in cAMP formation with essentially complete inhibition of sAC-dependent cAMP accumulation in sAC-overexpressing 4-4 cells^[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Bithionol (100 mg/kg/day, oral administration for 12 days) is moderately active against immature *H. nana* in mice^[3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Immature <i>H. nana</i> infected mice ^[3]
Dosage:	100 mg/kg/day
Administration:	Oral administration, for 12 days post-infection.
Result:	Eliminated 48% of mature <i>H. nana</i> . LD ₅₀ : 760 mg/kg.

CUSTOMER VALIDATION

- ACS Infect Dis. 2023 Jul 17.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Silke Kleinboelting, et al. Bithionol Potently Inhibits Human Soluble Adenylyl Cyclase through Binding to the Allosteric Activator Site. *J Biol Chem*. 2016 Apr 29;291(18):9776-84.

[2]. J Maki, et al. Anthelmintic effects of bithionol, paromomycin sulphate, flubendazole and mebendazole on mature and immature *Hymenolepis nana* in mice. *J Helminthol*. 1985 Sep;59(3):211-6.

[3]. Florent RL, et al. In vitro toxicity of bithionol and bithionol sulphoxide to *Neoparamoeba* spp., the causative agent of amoebic gill disease (AGD). *Dis Aquat Organ*. 2010 Sep 17;91(3):257-62.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA