Oxfendazole

Cat. No.: HY-B0291

CAS No.: 53716-50-0

Molecular Formula: $C_{15}H_{13}N_3O_3S$

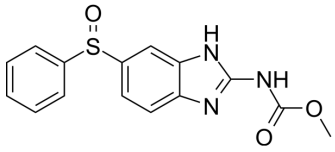
Molecular Weight: 315.35

Target: Parasite

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 : 31.25 mg/mL (99.10 mM; ultrasonic and warming and heat to 60°C)

H_2O : 0.67 mg/mL (2.12 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.1711 mL	15.8554 mL	31.7108 mL
5 mM	0.6342 mL	3.1711 mL	6.3422 mL
10 mM	0.3171 mL	1.5855 mL	3.1711 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (7.93 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (6.60 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (6.60 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Oxfendazole is a sulfoxide form of fenbendazole that is effective when taken orally. Oxfendazole fights parasites and has tumor-promoting activity[1][2][3].

In Vivo

Oxfendazole (30 mg/kg, oral, single dose) is effective in preventing and controlling natural infections of gastrointestinal nematodes in pigs[1].

Oxfendazole (0-500 mg/kg, oral, 8 weeks) has the potential to promote liver tumors in rats[2].

Pharmacokinetic parameters of Oxfendazole administered in different doses to goats through the rumen or directly into the reticulum[3]

Route	Dose (mg/kg)	AUC (μg/mL•h)	C_{max} (μg/mL)	T_{max} (h)	$\beta T_{1/2}$ (h)
Intraruminal	5	12.7	0.35	12	6.5
Intraruminal	10	26.7	0.55	15.5	8.5
Intraruminal	20	35.8	0.61	17.6	9.1
Intra-abomasal	10	18.3	0.9	4.1	/

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

Animal Model:	Naturally parasitized pigs[1]
Dosage:	30 mg/kg; single dose
Administration:	Oral
Result:	Was effective against natural infections in piglets caused by adult roundworms, esophageal tapeworms, pig tapeworms, and giant roundworms.

Animal Model:	Fisher 344 rat[2]
Dosage:	0, 10, 100, 250, 500 mg/kg; 8 weeks
Administration:	Oral
Result:	Led to an increase in relative liver weight, with noticeable hypertrophy of centrilobular hepatocytes, a significant increase in smooth endoplasmic reticulum in liver cells, and a marked rise in the number of placental form glutathione S-transferase positive single cells.

CUSTOMER VALIDATION

- Commun Biol. 2024 Jan 24;7(1):123.
- bioRxiv. 2020 Jun.

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REFERENCES

[1]. Alvarez, L., et al., Efficacy of a single high oxfendazole dose against gastrointestinal nematodes in naturally infected pigs. Veterinary parasitology, 2013. 194(1): p. 70-74.

[2]. K Mitsumori, et al. Liver Tumour-promoting Effects of oxfendazole in rats. Food Chem Toxicol. 1997 Aug;35(8):799-806.

[3]. N C Sangster, et al. Disposition of oxfendazole in goats and efficacy compared with sheep. Res Vet Sci. 1991 Nov;51(3):258-63.

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

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