Tribendimidine

Cat. No.: HY-147360

CAS No.: 115103-15-6

Molecular Formula: $C_{28}H_{32}N_6$

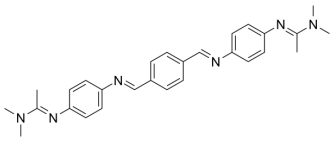
Molecular Weight: 452.59

Target: nAChR

Pathway: Membrane Transporter/Ion Channel; Neuronal Signaling

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (110.48 mM; ultrasonic and adjust pH to 3 with HCl)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.2095 mL	11.0475 mL	22.0951 mL
	5 mM	0.4419 mL	2.2095 mL	4.4190 mL
	10 mM	0.2210 mL	1.1048 mL	2.2095 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 (5.52 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (5.52 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Tribendimidine is an orally active, broad-spectrum anthelmintic agent, with particularly high activity against A. lumbricoides and N. americanus. Tribendimidine is also an L-type nicotinic acetylcholine receptor (nAChR) agonist[1][2][3].

In Vitro

Tribendimidine (100 μg/mL; 24 h) shows intoxication of C. elegans[3].
Tribendimidine (0-100 μg/mL; 6 days) shows toxicity with an LC_{50} value (concentration at which half the animals are dead) of 54.4 μg/mL[3].
Tribendimidine (0-200 μg/mL; 64 h)-induced sterility is resisted by trb mutant hermaphrodites, and Levamisole-resistant mutants are resistant to Tribendimidine. [3].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

Tribendimidine (75 and 150 mg/kg; p.o.; once) shows inhibition activity against C. sinensis in rats, and shows inhibition against O. viverrini at 400 mg/kg in hamsters[2].

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

Animal Model:	C. sinensis infected Female Wistar rats[2]
Dosage:	75 mg/kg and 150 mg/kg
Administration:	Oral administration, once
Result:	A 99.1% worm burden reduction was achieved at 150 mg/kg, and the worm burden reduction was still significant (68.9%) at 75 mg/kg.

REFERENCES

[1]. Xiao SH, et al. Tribendimidine: a promising, safe and broad-spectrum anthelmintic agent from China. Acta Trop. 2005 Apr;94(1):1-14.

[2]. Keiser J, et al. Evaluation of the in vivo activity of tribendimidine against Schistosoma mansoni, Fasciola hepatica, Clonorchis sinensis, and Opisthorchis viverrini. Antimicrob Agents Chemother. 2007 Mar;51(3):1096-8.

[3]. Hu Y, et al. The new anthelmintic tribendimidine is an L-type (levamisole and pyrantel) nicotinic acetylcholine receptor agonist. PLoS Negl Trop Dis. 2009 Aug 11;3(8):e499.

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