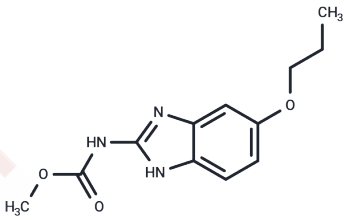
Data Sheet (Cat.No.T6623)

TargetMol

Oxibendazole

Chemical Properties



CAS No. : 20559-55-1

Formula: C12H15N3O3

Molecular Weight: 249.27

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	Oxibendazole is a benzimidazole drug that interferes with metabolic pathways, used to protect against roundworms, strongyles, threadworms, pinworms and lungworm infestations in horses and some domestic pets.
Targets(IC50)	Apoptosis,Parasite
In vivo	Oxibendazole shows a significant reduction of the proportion of positive foals after treatment. Oxibendazole significantly reduces the proportion of positive horse foals on six of the seven farms (86%). [1] Oxibendazole reduces in the number of strongyle eggs/g (epg) in horse, but the reduction is only by 82% with an upper confidence limit of 89%. [2] Oxibendazole results in collapse of the lip papillae, rupture of buccal cavity cuticle, prolapse of the pharynx, degeneration of epithelial cells and erosion of microvilli in adult Ascaris suum, theses changes may lead to impaired digestion and absorption of nutrients and cause cellular autolysis, resulting in the death of the worm. [3] Oxibendazole reduces faecal worm egg counts (EPG) by 97.6% for Toxocara canis, 95.7% for Trichuris vulpis, 94.6% for Ancylostoma caninum, and 100% for Toxascaris leonine in dogs and cats. [4] Oxibendazole could only be detected in plasma at the 0.5 hours and 1.0 hours post administration sampling times and the mean maximum plasma concentration is 0.008 mg/mL in horse. Oxibendazole is detected in faeces between 12 and 72 hours after administration and the highest dry faecal concentration was detected at 24 hours. [5]

Solubility Information

Solubility	DMSO: 1.46 mg/mL (5.86 mM),Sonication is recommended. H2O: Insoluble, (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 0.15 mg/mL (0.6 mM),Solution. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0117 mL	20.0586 mL	40.1171 mL
5 mM	0.8023 mL	4.0117 mL	8.0234 mL
10 mM	0.4012 mL	2.0059 mL	4.0117 mL
50 mM	0.0802 mL	0.4012 mL	0.8023 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

Lyons ET, et al. Parasitol Res,2011, 109(4), 1193-1197.
Kaduk J A, Gates-Rector S, Blanton T N.Crystal structure of oxibendazole, C12H15N3O3.Powder Diffraction.2023: 1-6.
Slocombe JO, et al. Can Vet J,1989, 30(8), 663-665.
Magambo JK, et al. Afr J Health Sci,1998, 5(1), 38-41.
Overgaauw PA, et al. Vet Q,1998, 20(2), 69-72.
Gokbulut C, et al. Res Vet Sci,2002, 72(1), 11-15.