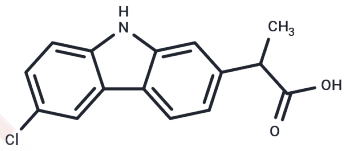
Data Sheet (Cat.No.T1325)

TargetMol

Carprofen

Chemical Properties



CAS No. : 53716-49-7

Formula: C15H12ClNO2

Molecular Weight: 273.71

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	Carprofen (Ridamyl) is a propionic acid derivate and nonsteroidal anti-inflammatory drug (NSAID) with anti-inflammatory, analgesic, and antipyretic activities.
Targets(IC50)	FAAH,Endogenous Metabolite,Autophagy,COX
In vitro	Administration of 4 mg/kg Carprofen significantly elevated peak plasma concentrations in dogs. Compared to buprenorphine, Carprofen treatment resulted in marginally superior analgesic effects with reduced sedative action in canines. Preoperative administration of Carprofen in dogs yielded lower pain scores than other groups, with marked effectiveness observed 2 hours post-extubation. Carprofen provided sustained analgesia for 18 hours in treated canines without adverse side effects and notably improved the speed of recovery in limping birds.
In vivo	Carprofen binds to human serum albumin (HSA) via fluorescence and equilibrium dialysis methods, with two sets of binding constants [K1=5.1 μM (fluorescence) and 3.7 μM (ED), K2=37 μM (fluorescence) and 13 μM (ED)]. It predominantly binds to site II, the benzodiazepine site, while site I, the Warfarin site, exhibits a lower affinity for Carprofen. The carboxyl group of Carprofen plays a significant role in its high-affinity binding with HSA. Additionally, Carprofen (S and R enantiomers) inhibits canine COX2 with an IC50 of 0.102 microM, primarily attributed to the S enantiomer (IC50, 0.0371 μM), which is approximately 200 times more potent than the R enantiomer (IC50, 5.97 microM).

Solubility Information

Solubility	Ethanol: 51 mg/mL (186.33 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), DMSO: 123 mg/mL (449.38 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 4 mg/mL (14.61 mM),Sonication is recommended. *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	3.6535 mL	18.2675 mL	36.535 mL
5 mM	0.7307 mL	3.6535 mL	7.307 mL
10 mM	0.3654 mL	1.8268 mL	3.6535 mL
50 mM	0.0731 mL	0.3654 mL	0.7307 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

Ricketts AP, et al. Am J Vet Res, 1998, 59(11), 1441-1446.
Rahman MH, et al. Biochem Pharmacol, 1993, 46(10), 1721-1731.
Lascelles BD, et al. Vet Surg, 1998, 27(6), 568-582.
Lascelles BD, et al. Vet Rec, 1994, 134(8), 187-191.
McGeown D, et al. Vet Rec, 1999, 144(24), 668-671.