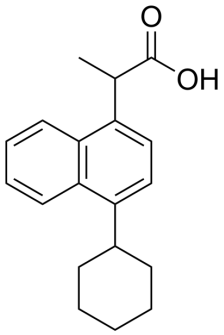
Vedaprofen

Cat. No.:	HY-118827
CAS No.:	71109-09-6
Molecular Formula:	$C_{19}H_{22}O_2$
Molecular Weight:	282.38
Target:	COX
Pathway:	Immunology/Inflammation
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 (177.07 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	3.5413 mL	17.7066 mL	35.4133 mL
	5 mM	0.7083 mL	3.5413 mL	7.0827 mL
	10 mM	0.3541 mL	1.7707 mL	3.5413 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 (8.85 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.85 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.85 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Vedaprofen (Quadrisol) is a COX-1 selective nonsteroidal anti-inflammatory agent (NSAID) for serum TxB2 and exudate PGE2 inhibition [1]. Vedaprofen is a Escherichia coli (E. coli) sliding clamp (SC) inhibitor with the IC_{50} of 222 μM[2].

IC_{50} & Target

COX-1

In Vitro

Vedaprofen inhibits horse serum TxB2 and horse exudate PGE2 with IC_{50}s of 9±5 and 630±148 ng/mL, respectively[1] .Vedaprofen inhibit the E. coli DNA polymerase III β subunit with antibacterial potency[2]. Vedaprofen shows high E. coli SC

binding affinity (K_i=131 μM)[2].

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

In Vivo

Pharmacokinetic parameters of vedaprofen in dogs[3].

Intravenous dose (mg/kg)	$t_{1/2\beta}$ (h)	$AUC_{0-48\ h}$ (h·ng/mL)	$AUC_{0-\infty}$ (h·ng/mL)
0.5	16.8±2.2	8612±1135	9518±1223

Oral dose (mg/kg)	$t_{1/2\beta}$ (h)	C_{max} (ng/mL)	t_{max} (h)	$AUC_{0-48\ h}$ (h·ng/mL)	$AUC_{0-\infty}$ (h·ng/mL)	$F_{0-\infty}$ (%)
0.5	12.7±2.1	2739±277	0.63±0.14	7090±1311	7650±1348	86±7

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

REFERENCES

[1]. P Lees, et al. PK-PD integration and PK-PD modelling of nonsteroidal anti-inflammatory drugs: principles and applications in veterinary pharmacology. J Vet Pharmacol Ther. 2004 Dec;27(6):491-502.

[2]. Zhou Yin,et al. DNA replication is the target for the antibacterial effects of nonsteroidal anti-inflammatory drugs. Chem Biol. 2014 Apr 24;21(4):481-487.

[3]. M Hoeijmakers, et al. The pharmacokinetics of Vedaprofen and its enantiomers in dogs after single and multiple dosing. J Vet Pharmacol Ther. 2005 Jun;28(3):305-12.

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