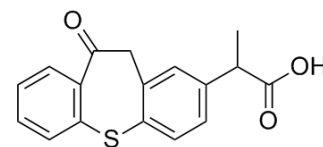


Zaltoprofen

Cat. No.:	HY-B0619		
CAS No.:	74711-43-6		
Molecular Formula:	C ₁₇ H ₁₄ O ₃ S		
Molecular Weight:	298.36		
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 : ≥ 100 mg/mL (335.17 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.3517 mL	16.7583 mL	33.5166 mL
	5 mM	0.6703 mL	3.3517 mL	6.7033 mL
	10 mM	0.3352 mL	1.6758 mL	3.3517 mL

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

In Vivo

- Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
 Solubility: ≥ 2.5 mg/mL (8.38 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (8.38 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (8.38 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Zaltoprofen (CN100), a non-steroidal anti-inflammatory drug (NSAID), is a preferential and orally active COX-2 inhibitor, with IC₅₀s of 1.3 and 0.34 μM for COX-1 and COX-2, respectively. Zaltoprofen exhibits powerful anti-inflammatory effects as well as an analgesic action on inflammatory pain^{[1][2][3]}

IC₅₀ & Target

COX-2	COX-1
0.34 μM (IC ₅₀)	1.3 μM (IC ₅₀)

In Vitro	<p>Zaltoprofen (0.1-10 μM; 15 min) inhibits thromboxane B2 production in human platelets in a dose-dependent manner^[1]. Zaltoprofen (0.01-1 μM; 30 min) inhibits prostaglandin E2 production by interleukin-1β-stimulated synovial cells^[1]. Zaltoprofen (0.1-1 μM; 5 min) inhibits the bradykinin-induced increase of $[Ca^{2+}]_i$ in DRG cells^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
In Vivo	<p>Zaltoprofen (5-20 mg/kg; a single p.o.) inhibits bradykinin-induced nociceptive responses in rats^[2]. Zaltoprofen (3-30 mg/kg; a single p.o.) inhibits the acetic acid-induced writhing response of mice in a dose-dependent manner^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" data-bbox="345 447 1515 720"> <tr> <td data-bbox="345 447 617 516">Animal Model:</td> <td data-bbox="617 447 1515 516">Eight-week-old male Wistar rats were injected Bradykinin every 15 min^[2]</td> </tr> <tr> <td data-bbox="345 516 617 569">Dosage:</td> <td data-bbox="617 516 1515 569">5, 10, 20 mg/kg</td> </tr> <tr> <td data-bbox="345 569 617 621">Administration:</td> <td data-bbox="617 569 1515 621">A single p.o.</td> </tr> <tr> <td data-bbox="345 621 617 720">Result:</td> <td data-bbox="617 621 1515 720">Inhibited bradykinin-induced nociceptive responses, with an ED50 of 9.7 mg/kg. The duration of analgesic effect was 60-90 min.</td> </tr> </table>	Animal Model:	Eight-week-old male Wistar rats were injected Bradykinin every 15 min ^[2]	Dosage:	5, 10, 20 mg/kg	Administration:	A single p.o.	Result:	Inhibited bradykinin-induced nociceptive responses, with an ED50 of 9.7 mg/kg. The duration of analgesic effect was 60-90 min.
Animal Model:	Eight-week-old male Wistar rats were injected Bradykinin every 15 min ^[2]								
Dosage:	5, 10, 20 mg/kg								
Administration:	A single p.o.								
Result:	Inhibited bradykinin-induced nociceptive responses, with an ED50 of 9.7 mg/kg. The duration of analgesic effect was 60-90 min.								

REFERENCES

- [1]. Kawai S, et, al. Comparison of cyclooxygenase-1 and -2 inhibitory activities of various nonsteroidal anti-inflammatory drugs using human platelets and synovial cells. *Eur J Pharmacol.* 1998 Apr 17;347(1):87-94.
- [2]. Hirate K, et, al. Zaltoprofen, a non-steroidal anti-inflammatory drug, inhibits bradykinin-induced pain responses without blocking bradykinin receptors. *Neurosci Res.* 2006 Apr;54(4):288-94.
- [3]. Kameyama T, et, al. Analgesic and antiinflammatory effects of 2-(10,11-dihydro-10-oxo-dibenzo[b,f]thiepin-2-yl)propionic acid in rat and mouse. *Arzneimittelforschung.* 1987 Jan;37(1):19-26.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA