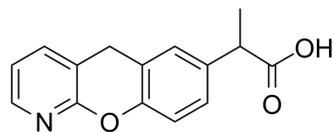


Pranoprofen

Cat. No.:	HY-B0336		
CAS No.:	52549-17-4		
Molecular Formula:	C ₁₅ H ₁₃ NO ₃		
Molecular Weight:	255.27		
Target:	PGE synthase; Apoptosis; COX		
Pathway:	Immunology/Inflammation; Apoptosis		
Storage:	Powder	-20°C	3 years
		4°C	2 years
	In solvent	-80°C	2 years
		-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (391.74 mM)
 * "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	3.9174 mL	19.5871 mL	39.1742 mL
	5 mM	0.7835 mL	3.9174 mL	7.8348 mL
	10 mM	0.3917 mL	1.9587 mL	3.9174 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 (9.79 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
 Solubility: ≥ 2.5 mg/mL (9.79 mM); Clear solution
- Add each solvent one by one: 10% DMSO >> 90% corn oil
 Solubility: ≥ 2.5 mg/mL (9.79 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Pranoprofen is a non-steroidal anti-inflammatory agent (NSAID) for the research of keratitis or other ophthalmology diseases. Pranoprofen inhibit COX-1 and COX-2 enzymes, thus blocking arachidonic acid converted to eicosanoids and reducing prostaglandins synthesis^{[1][2]}.

IC₅₀ & Target

COX-1	COX-2
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<p>In Vitro</p>	<p>Pranoprofen (pretreatment for 1 h; 1 mM) has an inhibitory effect against ER stress-induced GRP78 and CHOP expression in glial cells^[1]. Pranoprofen (5-25 μM; 24 h) dose-dependently enhances Dicer expression. Additionally, Pranoprofen at 5 μM enhances H2O2 (800 μM)-induced Dicer expression in FHC cells^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p>								
<p>In Vivo</p>	<p>Pranoprofen (oral administration; 4 mg/kg/16 mg/kg; 9 days) rescues Dicer expression in inflamed colon tissues, alleviates colitis and prevents colitis-associated colon cancers in C57BL/6 mice^[3]. Dicer is a key component of the RNA interference pathway and is essential for the biogenesis of miRNAs and siRNAs. MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table border="1" data-bbox="345 485 1515 722"> <tr> <td data-bbox="345 485 618 548">Animal Model:</td> <td data-bbox="618 485 1515 548">DSS-induced acute colitis in C57BL/6 mice^[3]</td> </tr> <tr> <td data-bbox="345 548 618 611">Dosage:</td> <td data-bbox="618 548 1515 611">4 mg/kg;16 mg/kg</td> </tr> <tr> <td data-bbox="345 611 618 674">Administration:</td> <td data-bbox="618 611 1515 674">Oral administration; 4 mg/kg/16 mg/kg; 9 days</td> </tr> <tr> <td data-bbox="345 674 618 722">Result:</td> <td data-bbox="618 674 1515 722">Alleviated inflammation in DSS-induced acute colitis.</td> </tr> </table>	Animal Model:	DSS-induced acute colitis in C57BL/6 mice ^[3]	Dosage:	4 mg/kg;16 mg/kg	Administration:	Oral administration; 4 mg/kg/16 mg/kg; 9 days	Result:	Alleviated inflammation in DSS-induced acute colitis.
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REFERENCES

- [1]. Toru Hosoi, et al. Effect of pranoprofen on endoplasmic reticulum stress in the primary cultured glial cells. *Neurochem Int.* 2009 Jan;54(1):1-6.
- [2]. Minting Chen, et al. The Therapeutic Effects and Possible Mechanism of Pranoprofen in Mouse Model of Corneal Alkali Burns. *J Ophthalmol.* 2020 Apr 6;2020:7485912.
- [3]. Xiaoli Wu, et al. Rescuing Dicer expression in inflamed colon tissues alleviates colitis and prevents colitis-associated tumorigenesis. *Theranostics.* 2020 Apr 27;10(13):5749-5762.

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

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