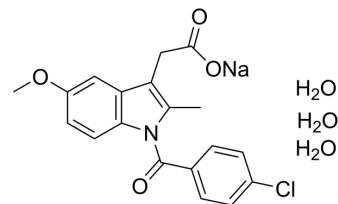


Indomethacin sodium hydrate

Cat. No.:	HY-14397A
CAS No.:	74252-25-8
Molecular Formula:	C ₁₉ H ₂₁ ClNNaO ₇
Molecular Weight:	433.82
Target:	COX; Bacterial; Influenza Virus; Antibiotic
Pathway:	Immunology/Inflammation; Anti-infection
Storage:	4°C, protect from light, stored under nitrogen * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light, stored under nitrogen)



SOLVENT & SOLUBILITY

In Vitro	H ₂ O : 25 mg/mL (57.63 mM; Need ultrasonic)				
	DMSO : 12.5 mg/mL (28.81 mM; ultrasonic and warming and heat to 60°C)				
		Solvent Concentration	Mass 1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM	2.3051 mL	11.5255 mL	23.0510 mL
	5 mM	0.4610 mL	2.3051 mL	4.6102 mL	
	10 mM	0.2305 mL	1.1526 mL	2.3051 mL	
Please refer to the solubility information to select the appropriate solvent.					
In Vivo	1. Add each solvent one by one: PBS Solubility: 5 mg/mL (11.53 mM); Clear solution; Need ultrasonic and warming and heat to 60°C				
	2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (4.79 mM); Clear solution				
	3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (4.79 mM); Clear solution				

BIOLOGICAL ACTIVITY

Description	Indomethacin (Indometacin) sodium hydrate is a potent, orally active COX1/2 inhibitor with IC ₅₀ values of 18 nM and 26 nM for COX-1 and COX-2, respectively. Indomethacin sodium hydrate has anticancer activity and anti-infective activity. Indomethacin sodium hydrate can be used for cancer, inflammation and viral infection research ^{[1][2][3]} .
In Vitro	Indomethacin (Indometacin) sodium hydrate is (0-150 μM; 24 hours; 3LL-D122 cells) has anticancer activity in vitro ^[2] . Indomethacin (Indometacin) sodium hydrate is (0-1000 μM) protects the host cells from damage caused by the virus through activating PKR, resulting in eIF2α phosphorylation, and in turn shutting of translation of viral protein and inhibiting

replication of the virus ($IC_{50}=2 \mu M$)^[3].

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

Cell Viability Assay^[2]

Cell Line:	3LL-D122 cells (highly metastatic variant of mouse LLCarcinoma cells)
Concentration:	0, 20, 50, 100 and 150 μM
Incubation Time:	24 hours
Result:	Inhibited cell viability at 20 mM, with 50% inhibition at 60 mM.

Cell Cycle Analysis^[2]

Cell Line:	3LL-D122 cells (highly metastatic variant of mouse LLCarcinoma cells)
Concentration:	0, 30 and 80 μM
Incubation Time:	24 hours
Result:	Decreased in the percentage of cells at the G2/M phase and increased in the percentage of cells at G1 phase.

In Vivo

Indomethacin (Indometacin) sodium hydrateis (0.01-10 mg/kg; p.o.; for 3 hours; male Sprague-Dawley rats) induces paw oedema and hyperalgesia measurement dose-dependently reversed carrageenan-induced hyperalgesia^[1].

Indomethacin (Indometacin) sodium hydrateis (10 mg/mL; p.o.; daily, for 29 days; male C57BL/6J mice) inhibits tumor growth in vivo^[2].

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

Animal Model:	Male Sprague-Dawley rats ^[1]
Dosage:	0.01-10 mg/kg
Administration:	Oral administration; for 3 hours
Result:	Inhibited the carrageenan-induced rat paw oedema ($ED_{50}=2.0$ mg/kg) and hyperalgesia ($ED_{50}=1.5$ mg/kg) in a dose-dependent manner.

Animal Model:	Male C57BL/6J mice ^[2]
Dosage:	10 mg/mL
Administration:	Oral administration; daily, for 29 days
Result:	Delayed the onset of tumor growth and the initial growth rate of the footpad tumors.

CUSTOMER VALIDATION

- Hepatology. 2023 Feb 1;77(2):456-465.
- Biomaterials. 16 September 2022.
- Chem Mater. 2017, 29(19):8221-8238.
- Appl Mater Today. 2023 Apr.

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- Clin Transl Med. 2021 Oct;11(10):e548.

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REFERENCES

- [1]. Riendeau D, et, al. Biochemical and pharmacological profile of a tetrasubstituted furanone as a highly selective COX-2 inhibitor. Br J Pharmacol. 1997 May;121(1):105-17.
- [2]. Eli Y, et, al. Comparative effects of indomethacin on cell proliferation and cell cycle progression in tumor cells grown in vitro and in vivo. Biochem Pharmacol. 2001 Mar 1;61(5):565-71.
- [3]. Amici C, et, al. Inhibition of viral protein translation by indomethacin in vesicular stomatitis virus infection: role of eIF2 α kinase PKR. Cell Microbiol. 2015 Sep;17(9):1391-404.
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Caution: Product has not been fully validated for medical applications. For research use only.

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