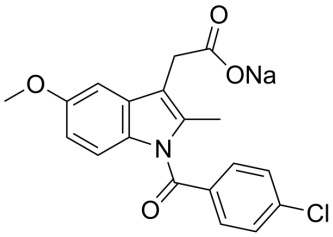
Indomethacin sodium

Cat. No.:	HY-15034
CAS No.:	7681-54-1
Molecular Formula:	$C_{19}H_{15}ClNNaO_4$
Molecular Weight:	379.77
Target:	Antibiotic; Influenza Virus; COX; Bacterial
Pathway:	Anti-infection; Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Indomethacin (Indometacin) sodium 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 has anticancer activity and anti-infective activity. Indomethacin sodium can be used for cancer, inflammation and viral infection research.[1][2][3].

IC_{50} & Target

COX-1	COX-2
18 nM (IC_{50})	26 nM (IC_{50})

In Vitro

Indomethacin (Indometacin) sodium (0-150 μM; 24 hours; 3LL-D122 cells) has anticancer activity in vitro[2].
Indomethacin (Indometacin) sodium (0-1000 μM) protects the host cells from damage caused by the virus through activates PKR, resulting in elF2α phosphorylation, and in turn shutting of translation of viral protein and inhibiting replication of the virus (IC_{50}=2μM)[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 150μM
Incubation Time:	24 hours
Result:	Inhibited cell viability at 20 mM, with 50% inhibition at 60 nM.

Cell Cycle Analysis[2]

Cell Line:	3LL-D122 cells (highly metastatic variant of mouse LLcarcinoma cells)
Concentration:	0, 30 and 80μM
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 (0.01-10 mg/kg; p.o.; for 3 hours; male Sprague-Dawley rats) induces paw oedema and hyperalgesmeasurement dose-dependently reversed carrageenan-induced hyperalgesia[1].

Indomethacin (Indometacin) sodium (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.
- 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]. Amici C, et, al. Inhibition of viral protein translation by indomethacin in vesicular stomatitis virus infection: role of eIF2α kinase PKR. Cell Microbiol. 2015 Sep;17(9):1391-404.

[3]. 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.

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