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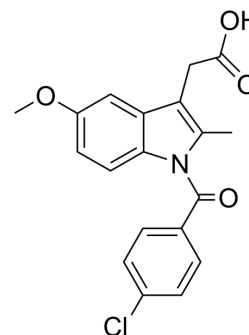
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Indomethacin (GMP)

Cat. No.:	HY-14397G
CAS No.:	53-86-1
Molecular Formula:	C ₁₉ H ₁₆ ClNO ₄
Molecular Weight:	357.79
Target:	Antibiotic; Influenza Virus; Bacterial; COX
Pathway:	Anti-infection; Immunology/Inflammation
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Indomethacin (GMP) is Indomethacin (HY-14397) produced by using GMP guidelines. GMP small molecules work appropriately as an auxiliary reagent for cell therapy manufacture. Indomethacin (Indometacin) 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 has anticancer activity and anti-infective activity. Indomethacin can be used for cancer, inflammation and viral infection research ^{[1][2][3]} .
In Vitro	Indomethacin (Indometacin) (0-150 μM; 24 h; 3LL-D122 cells) has anticancer activity in vitro ^[2] . Indomethacin (Indometacin) (0-1000 μM) protects the host cells from damage caused by the virus through activates PKR, resulting in eIF2α phosphorylation, and in turn shutting of translation of viral protein and inhibiting replication of the virus (IC ₅₀ =2μM) ^[3] . Indomethacin (8 μM, 26 h) induces M1 to M2 macrophage reprogramming in RAW 264.7 cells ^[4] . Indomethacin (200 μM, 5 d) induces the trans-differentiation of human adipose-derived stem cells into neurogenic cells ^[5] . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Indomethacin can be used in animal modeling to construct gastrointestinal ulcer models. Indomethacin (Indometacin) (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) (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.

CUSTOMER VALIDATION

- Biomaterials. 16 September 2022.
- Hepatology. 2023 Feb 1;77(2):456-465.
- Clin Transl Med. 2021 Oct;11(10):e548.
- Chem Mater. 2017, 29(19):8221-8238.
- Appl Mater Today. 2023 Apr.

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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.
- [4]. Luo X, Xiong H, Jiang Y, et al. Macrophage Reprogramming via Targeted ROS Scavenging and COX-2 Downregulation for Alleviating Inflammation. *Bioconjug Chem.* 2023;34(7):1316-1326.
- [5]. Kompisch KM, Lange C, Steinemann D, et al. Neurogenic transdifferentiation of human adipose-derived stem cells? A critical protocol reevaluation with special emphasis on cell proliferation and cell cycle alterations. *Histochem Cell Biol.* 2010;134(5):453-468.
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Caution: Product has not been fully validated for medical applications. For research use only.

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