Tolmetin sodium

Cat. No.: HY-B1799A

CAS No.: 35711-34-3

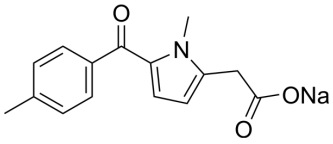
Molecular Formula: $C_{15}H_{14}NNaO_3$

Molecular Weight: 279.27

Target: COX

Pathway: Immunology/Inflammation

Storage: Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	Tolmetin sodium is an orally active and potent COX inhibitor with IC_{50}s of 0.35 μM and 0.82 μM human COX-1 and COX-2, respectively. Tolmetin sodium is a non-steroidal anti-inflammatory drug (NSAID)[1][2].	
IC_{50} & Target	Human COX-1 0.35 μM (IC_{50})	Human COX-2 0.82 μM (IC_{50})
In Vitro	Tolmetin sodium (0.25 mM) does not attenuate lipid peroxidation in rat brain homogenate. Tolmetin (0.25, 0.5, 0.75, 1 mM) shows radical scavenging properties but without superoxide anion generation in rat brain homogenat[3]. Tolmetin sodium (0.001-100 μM) shows anticancer activity againts HT-29 colon cancer cell line in a dose-dependent manner [4]. Tolmetin sodium (0-100 μM) shows no effect on osteoblast growth[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	
In Vivo	Tolmetin sodium (30,100 mg/kg; gavage; single dose or twice daily for 3 and 14 days) shows maximal ulcerogenic effect 4 h after the single dose, while potently decreases after 3 and 14 days of repeated administration in male Wistar rats weighing 180-200 g. Tolmetin causes gastric lesions in 100 mg/kg[2]. Tolmetin sodium (5 mg/kg twice a day for 5 days) pre-treatment considerably attenuates quinolinic acid (QA)-induced neurotoxicity[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.	

REFERENCES

[1]. DADAŞ, Yakup, et al. Synthesis and anticancer activity of some novel tolmetin thiosemicarbazides. Marmara Pharmaceutical Journal 19(3) • April 2015

[2]. T D Warner, et al. Nonsteroid drug selectivities for cyclo-oxygenase-1 rather than cyclo-oxygenase-2 are associated with human gastrointestinal toxicity: a full in vitro analysis. Proc Natl Acad Sci U S A. 1999 Jun 22;96(13):7563-8.

[3]. Etcheverry SB, et al. Three new vanadyl(IV) complexes with non-steroidal anti-inflammatory drugs (Ibuprofen, Naproxen and Tolmetin). Bioactivity on osteoblast-like cells in culture. J Inorg Biochem. 2002 Jan 1;88(1):94-100.

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

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