Efipladib

Cat. No.: HY-106253

CAS No.: 381683-94-9

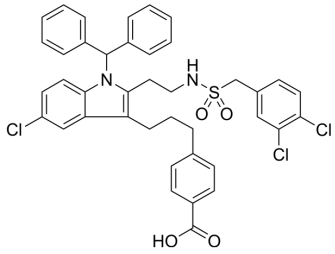
Molecular Formula: $C_{40}H_{35}Cl_3N_2O_4S$

Molecular Weight: 746.14

Target: Phospholipase

Pathway: Metabolic Enzyme/Protease

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



BIOLOGICAL ACTIVITY

Description

Efipladib is a potent, selective and orally active cPLA$_2$α inhibitor with an IC_{50} of 0.04 μM and a K_d of 0.067 μM[1].

IC_{50} & Target

cPLA2α 0.04 μM (IC_{50})	cPLA2α 0.067 μM (Ki)

In Vitro

Efipladib (10-25 μM; 24-72 h) increases COX-1 and PGE2 levels in PC3 and LNCaP cells[3].

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

Western Blot Analysis[3]

Cell Line:	PC3 and LNCaP cells
Concentration:	10, 15, 20 and 25 μM
Incubation Time:	72 h
Result:	Significantly decreased cPLA2α activity. Increased COX-1 protein levels. Increased COX-2 protein levels in PC3 cells.

In Vivo

Efipladib (100 mg/kg; p.o.; BID for 31 days) reverses the severity in mouse collagen-induced arthritis (CIA) model[1].

Efipladib (100 mg/kg; p.o.; once) significantly inhibits the nociceptive response 1 h after administration in the rat Complete Freund's Adjuvant (CFA) nociception model[2].

Efipladib is unable to cross the BBB to gain access to the central compartment[2].

Efipladib (100 nM; IT; 5 μL) reduces PGE2 levels in the cerebrospinal fluid in rats[2].

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

Animal Model:	Mouse collagen-induced arthritis (CIA) model[1]
Dosage:	100 mg/kg
Administration:	PO, BID for 31 days
Result:	Gave a dramatic reduction in the clinical disease severity score relative to the vehicle treated group.

Animal Model:	Male Sprague-Dawley rats[2]
Dosage:	100 nM in 5 μL of 100% DMSO/rat
Administration:	Intrathecal administration
Result:	Reduced PGE2 levels in the cerebrospinal fluid (CSF) by 45-60%, yet there was no effect on the nociceptive response.

REFERENCES

[1]. McKew J C, et al. Indole Cytosolic Phospholipase A2 α Inhibitors: Discovery and in Vitro and in Vivo Characterization of 4-{3-[5-Chloro-2-(2-{[(3, 4-dichlorobenzyl) sulfonyl] amino} ethyl)-1-(diphenylmethyl)-1 H-indol-3-yl] propyl} benzoic Acid, Efipladib. Journal of medicinal chemistry, 2008, 51(12): 3388-3413.

[2]. Nickerson-Nutter CL, et al. The cPLA2α inhibitor efipladib decreases nociceptive responses without affecting PGE2 levels in the cerebral spinal fluid. Neuropharmacology. 2011 Mar;60(4):633-41.

[3]. Niknami M, et al. Decrease in expression or activity of cytosolic phospholipase A2alpha increases cyclooxygenase-1 action: A cross-talk between key enzymes in arachidonic acid pathway in prostate cancer cells. Biochim Biophys Acta. 2010 Jul;1801(7):731-7.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA