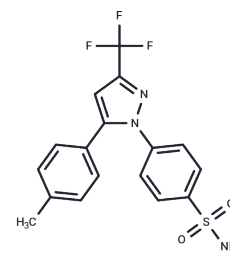


Celecoxib

Chemical Properties

CAS No. :	169590-42-5
Formula:	C ₁₇ H ₁₄ F ₃ N ₃ O ₂ S
Molecular Weight:	381.37
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Celecoxib (SC 58635) is a Nonsteroidal Anti-inflammatory Drug. The mechanism of action of celecoxib is as a Cyclooxygenase Inhibitor.
Targets(IC50)	COX
In vitro	In rats, Celecoxib at doses ranging from 200 to 600 mg/kg does not induce acute gastrointestinal (GI) toxicity. Furthermore, continuous treatment with Celecoxib at these dosages for over ten days fails to produce GI toxicity. In the adjuvant-induced arthritis model, Celecoxib mitigates chronic inflammation with an effective dose 50 (ED50) of 0.37 mg/kg. Additionally, the compound exhibits analgesic activity in the Hargreaves pain model, with an ED50 of 34.5 mg/kg.
In vivo	Celecoxib inhibits cell proliferation in nasopharyngeal carcinoma cell lines HNE1 (IC50=32.86 μM) and CNE1-LMP1 (IC50= 61.31 μM). It also selectively inhibits COX-1 (IC50=15 μM) and COX-2 (IC50=40 nM) with effective selectivity.
Kinase Assay	COX enzyme assay in vitro: Expression of COX protein in insect cells is determined by assessing PG-synthetic capability in homogenates from cells incubated for 3 days with COX-1 or COX-2 baculovirus. Cells expressing COX-1 or COX-2 are homogenized and incubated with arachidonic acid (10 μM). COX activity is determined by monitoring PG production. No COX activity is detected in mock-infected Sf9 cells. Celecoxib are preincubated with crude 1% CHAPS homogenates (2-10 μg of protein) for 10 minutes before addition of arachidonic acid. PGE2 formed is detected by ELISA after 10 minute incubation.
Cell Research	The antiproliferative effect of Celecoxib on NPC cells is assessed using an MTT assay. Cells are seeded into 96-well plates and allowed to attach for 24 hours. The cells are then treated with increasing concentrations of Celecoxib (0 to 75 μM) dissolved in DMSO (final concentration ≤0.1%) and incubated for up to 48 hours. After the incubation, 20 μL of MTT dye (5 mg/mL) are added to each well and cells are incubated at 37 °C for 4 hours. After removing the supernatants, the crystals are dissolved in DMSO and the absorbance is measured at 490 nm. The half-maximal inhibitory concentration (IC50) values and the 95% confidence intervals are calculated using probit regression using SPSS 15.0 software. The experiment is performed in triplicate and repeated at least three times.(Only for Reference)

Solubility Information

Solubility	Ethanol: 31 mg/mL (81.29 mM),Sonication is recommended. DMSO: 260 mg/mL (681.75 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 7.1 mg/mL (18.62 mM),Solution. 2% DMSO+40% PEG300+5% Tween 80+53% H2O: 3 mg/mL (7.87 mM),Solution. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.6221 mL	13.1106 mL	26.2213 mL
5 mM	0.5244 mL	2.6221 mL	5.2443 mL
10 mM	0.2622 mL	1.3111 mL	2.6221 mL
50 mM	0.0524 mL	0.2622 mL	0.5244 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

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