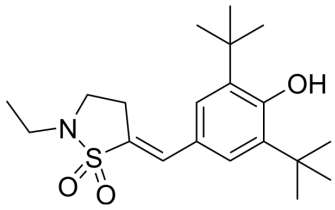
S-2474

Cat. No.:	HY-19212
CAS No.:	158089-95-3
Molecular Formula:	$C_{20}H_{31}NO_3S$
Molecular Weight:	365.53
Target:	COX; Lipoxygenase
Pathway:	Immunology/Inflammation; Metabolic Enzyme/Protease
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	S-2474 is an inhibitor of COX-2 and 5-lipoxygenase (5-LO), with IC_{50}s of 11 nM and 27 μM for COX-2 and COX-1 in human intact cells, and used as a nonsteroidal anti-inflammatory agent.

IC_{50} & Target	COX-2 11 nM (IC_{50})	COX-1 27 μM (IC_{50})	5-LO

In Vitro	S-2474 is an inhibitor of COX-2 and 5-lipoxygenase, with IC_{50}s of 11 nM and 27 μM for COX-2 and COX-1[1]. S-2474 prevents neurons from Aβ-induced cell death significantly in a concentration-dependent manner (IC_{50} =26±12 nM). S-2474 (10 μM) completely inhibits Aβ(25-35)-induced neuronal cell death. S-2474 also shows neuroprotective effects in the Aβ(1-40)-induced neuronal cell death. S-2474 inhibits the PGD2 generation in a concentration dependent manner (IC_{50}=69.8±21.9 nM). S-2474 (10 μM) lowers the elevated level of PGD2 significantly and reduces radicals from Aβ(25-35)-treated neurons[2]. S-2474 significantly prevents neurons from undergoing $sPLA_2$-IIA-induced cell death. S-2474 completely ameliorates $sPLA_2$-IIA-induced apoptotic features such as the condensation of chromatin and the fragmentation of DNA. Moreover, S-2474 significantly inhibits the $sPLA_2$-IIA-induced generation of PGD2. S-2474 inhibits $sPLA_2$-IIA-induced neuronal cell death in a concentration-dependent manner (IC_{50} = 94 nM)[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]	Experiments are principally performed in the two conditions as follows. (i) Neurons (2.5×10^5 cells/cm^2) are treated with 10 μM Aβ(25-35) or Aβ(1-40) in the presence or absence of S-2474 at 37°C. Vehicle controls are treated with culture medium containing 1% deionized water and 0.1% DMSO. Aβ controls are treated with culture medium containing 10 μM Aβ(25-35) and 0.1% DMSO. (ii) Neurons (2.5×10^5 cells/cm^2) are treated with eicosanoids at 37°C. Vehicle controls are treated with culture medium containing 0.1% ethanol. Two different methods are employed for assessment of neurotoxicity of Aβ. First, the 3-(4,5-dimethylthiazol-2-yl)-2,5-diphenyl tetrazolium bromide dye (MTT) reduction assay reflecting mitochondrial succinate dehydrogenase activity is employed. Second, residual cells are counted according to morphologic criteria; neurons with intact neurites and a smooth, round soma are considered viable, whereas those with degenerated neurites and an irregular soma are considered nonviable. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Yagami T, et al. Effects of S-2474, a novel nonsteroidal anti-inflammatory drug, on amyloid beta protein-induced neuronal cell death. Br J Pharmacol. 2001 Oct;134(3):673-81.

[2]. Yagami T, et al. S-2474, a novel nonsteroidal anti-inflammatory drug, rescues cortical neurons from human group IIA secretory phospholipase A(2)-induced apoptosis. Neuropharmacology. 2005 Aug;49(2):174-84. Epub 2005 Apr 1.

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