Product Data Sheet

Product Name: S-2474
Cat. No.: GC31835

Chemical Properties

Cas. No.	158089-95-3		
SMILES	OC1=C(C(C)(C)C)C=C(/C=C2CCN(CC)S\2(=O)=O)C=C1C(C)(C)C		
Formula	$C_{20}H_{31}NO_3S$	M.Wt	365.53
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	S-2474		

Protocol

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Address: 10292 Central Ave. #205, Montclair, CA, USA

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Cell experiment:

Experiments are principally performed in the two conditions as follows. (i) Neurons (2.5×105 cells/cm2) 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 (2.5×105 cells/cm2) 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.

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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.

Background

S-2474 is an inhibitor of COX-2 and 5-lipoxygenase, with IC50s of 11 nM and 27 μM for COX-2 and COX-1 in human intact cells, and used as a nonsteroidal anti-inflammatory drug.

S-2474 is an inhibitor of COX-2 and 5-lipoxygenase, with IC50s 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 (IC50 =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 (IC50=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 sPLA2-IIA-induced cell death. S-2474 completely ameliorates sPLA2-IIA-induced apoptotic features such as the condensation of chromatin and the fragmentation of DNA. Moreover, S-2474 significantly inhibits the sPLA2-IIA-induced generation of PGD2. S-2474 inhibits sPLA2-IIA-induced neuronal cell death in a concentration-dependent manner (IC50 = 94 nM)[3].

[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.