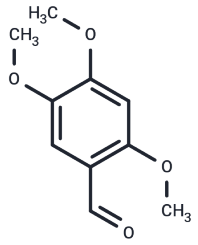
Data Sheet (Cat.No.T2826)

TargetMol

Asaraldehyde

Chemical Properties



CAS No. : 4460-86-0

Formula: C10H12O4

Molecular Weight: 196.2

Appearance: no data available

Storage: keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Asaraldehyde (2,4,5-trimethoxy-Benzaldehyde), a natural COX-2 inhibitor, exhibits 17-fold selectivity than COX-1.
Targets(IC50)	COX
In vivo	Asaraldehyde (100 μg/mL) exhibits a higher inhibitory effect on COX-2. At the same concentration, it mildly inhibits the activity of prostaglandin H synthase-1 (3.32%) and significantly inhibits prostaglandin H synthase-2 (52.69%). Moreover, Asaraldehyde downregulates C/EBPβ, C/EBPδ, and C/EBPα and suppresses the expression of PPARγ1, PPARγ2, and acetyl-CoA carboxylase.
Kinase Assay	Hedgehog cell assay: This assay measures the end stage of the Hh signaling pathway, that is, the transcriptional modulation of Gli, using Luciferase as readout (Gli-Luc assay). Cyclopamine is prepared for assay by serial dilution in DMSO and then added to empty assay plates. TM3Hh12 cells (TM3 cells containing Hh-responsive reporter gene construct pTA-8xGli-Luc) are resuspended in F12 Ham's/DMEM (1:1) containing 5% FBS and 15 mM Hepes pH 7.3, added to assay plates and incubated with Cyclopamine for approximately 30 minutes at 37 °C in 5% CO2. 1 nM Hh-Ag 1.5 is then added to assay plates and incubated at 37 °C in the presence of 5% CO2. After 48 hours, either Bright-Glo or MTS reagent is added to the assay plates and luminescence or absorbance at 492 nm is determined. IC50 value, defined as the inflection point of the logistic curve, is determined by non-linear regression of the Gli-driven luciferase luminescence or absorbance signal from MTS assay vs log10 (concentration) of Cyclopamine using the R statistical software pack
Cell Research	3T3-L1 cells are seeded in 96-well plates at a concentration of 104 /well. Twenty-four hours after seeding, the cells are treated with 100 μg/mL of Asaraldehyde for 24 hours or for the whole 8-day differentiation period. Fully differentiated adipocytes are also treated with 100 μg/mL of Asaraldehyde for 24 hours-72 hours to test the cytotoxicity. At the end of treatment, cells are cultured with MTT at a final concentration of 0.5 mg/mL for another 4 hours. The purple MTT formazan is dissolved by DMSO and the absorbance at 570 nm is taken with a spectrophotometer. The absorbance is proportional to the viability of adipocytes.(Only for Reference)

Solubility Information

Solubility	DMSO: 50 mg/mL (254.84 mM),Sonication is recommended. Ethanol: 16 mg/mL (81.55 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.0968 mL	25.4842 mL	50.9684 mL
5 mM	1.0194 mL	5.0968 mL	10.1937 mL
10 mM	0.5097 mL	2.5484 mL	5.0968 mL
50 mM	0.1019 mL	0.5097 mL	1.0194 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.

Reference

Chen CC et al. Lett Appl Microbiol, 2007, 44(4), 387-392.
Momin RA et al. Phytother Res, 2003, 17(8), 976-979.
Wu MR, et al. J Agric Food Chem, 2012, 60(29), 7262-7269.