Data Sheet (Cat.No.T15044)

TargetMol

D609

Chemical Properties

CAS No. :	83373-60-8
Formula:	C11H15KOS2
Molecular Weight:	266.46
Storage:	Store at low temperature 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	D609 (Tricyclodecan-9-yl-Xanthogenate) has a wide range of biological activities including antioxidant, antiapoptotic, anticholinergic, antitumor, anti-inflammatory, antiviral, antiproliferative, and neuroprotective activities.D609 acts by inducing competitive inhibition of PC-specific phospholipase C (PC-PLC) and sphingomyelin synthase (SMS). D609 acts by causing competitive inhibition of PC-specific phospholipase C (PC-PLC) and sphingomyelin synthase (SMS).
Targets(IC50)	Apoptosis,Antioxidant,Phospholipase
In vitro	D609 (100 μM; 2 hours) significantly inhibits the proliferation of various cell lines[2].At concentrations of 50, 100, and 200 μM (2 hours), D609 activates caspase-3 at 200 μM, while at 50 and 100 μM, no detectable cleavage is observed[2].D609 (100 μM; 2 hours) markedly inhibits BrdU incorporation in BV-2 microglial cells, leading to G1 phase cell accumulation and a decrease in the number of cells in the S phase[2].D609 (100 μM; 2 hours, followed by 2 or 22 hours of cultivation without D609) increases ceramide levels, upregulates p21 expression, and results in decreased phosphorylation of Rb[4].
In vivo	D609 (2.5 and 10 mg/kg/day; intraperitoneal injection; continuous for 6 weeks) inhibits the progression of pre-existing atherosclerotic lesions in apoE-/- mice and transforms the lesion composition into a more stable phenotype[3].Pre-treatment with D609 (50 mg/kg; intraperitoneal injection; single dose) 30 minutes before intratracheal administration of LPS (3 mg/kg) prevents lipopolysaccharide-induced pulmonary arterial hypertension in adult male Wistar rats[2].

Solubility Information

Solubility	H2O: 1 mg/mL (3.75 mM),Sonication is recommended. DMSO: 16.7 mg/mL (62.67 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: 2.5 mg/mL (9.38 mM),Sonication is recommended. *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.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.7529 mL	18.7645 mL	37.5291 mL
5 mM	0.7506 mL	3.7529 mL	7.5058 mL
10 mM	0.3753 mL	1.8765 mL	3.7529 mL
50 mM	0.0751 mL	0.3753 mL	0.7506 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

E Amtmann, et al. The antiviral, antitumoural xanthate D609 is a competitive inhibitor of phosphatidylcholine-specific phospholipase C. Drugs Exp Clin Res. 1996;22(6):287-94.
Rachele Pandolfi, et al. Role of acid sphingomyelinase and IL-6 as mediators of endotoxin-induced pulmonary vascular dysfunction. Thorax. 2017 May;72(5):460-471.
Lu Zhang, et al. D609 inhibits progression of preexisting atheroma and promotes lesion stability in apolipoprotein e-/- mice: a role of phosphatidylcholine-specific phospholipase in atherosclerosis. Arterioscler Thromb Vasc Biol. 2010 Mar;30(3):411-8.
Gusain A, et al. Anti-proliferative effects of tricyclodecan-9-yl-xanthogenate (D609) involve ceramide and cell cycle inhibition.Mol Neurobiol. 2012 Jun;45(3):455-6Epub 2012 Mar 14.