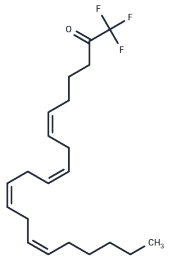
Data Sheet (Cat.No.T21681)

TargetMol

AACOCF3

Chemical Properties



CAS No. : 149301-79-1

Formula: C21H31F3O

Molecular Weight: 356.47

Storage: Store at low temperature,Keep away from direct sunlight
Pure form: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	AACOCF3 (Arachidonyl trifluoromethyl ketone) is a cell-permeable trifluoromethyl ketone analog of arachidonic acid and a potent, selective slow binding inhibitor of the 85-kDa cytosolic phospholipase A2 (cPLA2). By blocking the production of arachidonate and 12-hydroxyeicosatetraenoic acid in calcium ionophore-challenged platelets, AACOCF3 hinders their synthesis. Additionally, AACOCF3 inhibits glucose-induced insulin secretion from isolated rat islets, making it promising for cardiovascular disease research.
Targets(IC50)	Phospholipase
In vitro	AACOCF3 inhibits the release of arachidonic acid from calcium ionophore-challenged U937 cells with an IC50 of 8 μM and from platelets with an IC50 of 2 μM[1]. At 10 μM, AACOCF3 suppresses phosphate-induced calcification and osteogenic/chondrogenic signaling in HAoSMCs. It also significantly inhibits both basal and Pi-induced release of arachidonic acid, a product of PLA2 activity[2].
In vivo	'AACOCF3 (10 mg/kg; gavage; 5 days a week; ApoE-/- mice (6-week-old males) on a high-cholesterol diet) significantly reduces type III collagen plaque expression, without affecting total collagen accumulation[3].'

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8053 mL	14.0264 mL	28.0529 mL
5 mM	0.5611 mL	2.8053 mL	5.6106 mL
10 mM	0.2805 mL	1.4026 mL	2.8053 mL
50 mM	0.0561 mL	0.2805 mL	0.5611 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

Riendeau D, et al. Arachidonyl trifluoromethyl ketone, a potent inhibitor of 85-kDa phospholipase A2, blocks production of arachidonate and 12-hydroxyeicosatetraenoic acid by calcium ionophore-challenged platelets. J Biol Chem. 1994;269(22):15619-15624.

Schanstra JP, et al. Systems biology identifies cytosolic PLA2 as a target in vascular calcification treatment. JCI Insight. 2019;4(10):e125638. Published 2019 May 16.

Loweth AC, et al. A specific inhibitor of cytosolic phospholipase A2 activity, AACOCF3, inhibits glucose-induced insulin secretion from isolated rat islets. Biochem Biophys Res Commun. 1996;218(2):423-427.