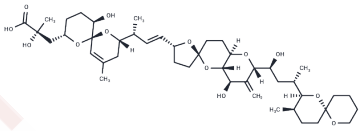
Data Sheet (Cat.No.T16381)

TargetMol

Okadaic acid

Chemical Properties



CAS No. : 78111-17-8

Formula: C44H68O13

Molecular Weight: 805

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	Okadaic acid is a potent polyether marine toxin that primarily accumulates in the digestive glands of marine mollusks. It is a highly effective and selective inhibitor of protein phosphatases (PPs). By inhibiting these phosphatases, okadaic acid increases the phosphorylation levels of various proteins, acts as a tumor promoter, and induces tau protein phosphorylation. It can be used to establish models of Alzheimer's disease and skin cancer.
Targets(IC50)	Phosphatase
In vitro	Okadaic acid, at concentrations ranging from 0 to 100 nM and after treatment periods of 24 or 48 hours, is capable of inhibiting the proliferation of AGS, MNK-45, and Caco 2 cells[3].
In vivo	Okadaic Acid (100 μg; icv; single dose) can be used in male Wistar rats (250-300 g) to establish an Alzheimer's disease model[6].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2422 mL	6.2112 mL	12.4224 mL
5 mM	0.2484 mL	1.2422 mL	2.4845 mL
10 mM	0.1242 mL	0.6211 mL	1.2422 mL
50 mM	0.0248 mL	0.1242 mL	0.2484 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

Bialojan C, et al. Inhibitory effect of a marine-sponge toxin, okadaic acid, on protein phosphatases. Specificity and kinetics. Biochem J. 1988 Nov 15;256(1):283-90.
McCluskey A, et al. Serine-threonine protein phosphatase inhibitors: development of potential therapeutic strategies. J Med Chem. 2002 Mar 14;45(6):1151-75.
Schröder HC, et al. Okadaic acid, an apoptogenic toxin for symbiotic/parasitic annelids in the demosponge Suberites domuncula. Appl Environ Microbiol. 2006 Jul;72(7):4907-16.