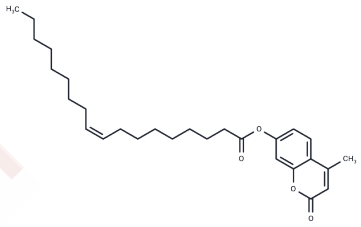
Data Sheet (Cat.No.T78386)

TargetMol

4-Methylumbelliferyl oleate

Chemical Properties



CAS No. : 18323-58-5

Formula: C28H40O4

Molecular Weight: 440.62

Storage: Keep away from moisture,Store at low temperature
Store at -20°C
Actual storage temperature shall be subject to the COA.

Biological Description

Description	4-Methylumbelliferyl oleate is a fluorescent substrate for lipases (Ex/Em=320/450 nm), which can be cleaved by lipase and can be used to measure pancreatic inhibitory activity.
Targets(IC50)	Others
In vitro	Pancreatic lipase inhibitory activity was assessed by employing 4-Methylumbelliferyl (4-MU) oleate as the substrate. The assay mixture contained 0.1 mM 4-MU oleate (50 μL), McIlvaine buffer (20 μL of 0.1 M citrate-Na2HPO4, pH 7.4), and the test sample (5 μL). This was followed by the addition of porcine pancreatic lipase (25 μL), adjusting the total volume to 0.1 mL. Post incubation at 37℃ for 10 minutes, lipase-catalyzed liberation of 4-MU was quantified using fluorescence multi-detection reader at excitation and emission wavelengths of 320 nm and 450 nm, respectively [1].
Kinase Assay	4-Methylumbelliferyl (4-MU) oleate as a substrate to measure the inhibitory activity of compounds on pancreatic lipase a. Reagent preparation: The reaction mixture includes 50 μL of 0.1 mM 4-MU oleate, 20 μL of McIlvane buffer (0.1 M citric acid-Na2HPO4, pH 7.4) and 5 μL of sample solution. b. Operation steps: 1. Add 25 μL of porcine pancreatic lipase to the reaction mixture and adjust the total volume to 0.1 mL. 2. After the mixture is incubated at 37°C for 10 minutes, the amount of 4-MU released by lipase is measured by using a fluorescence multifunctional detector at an excitation wavelength of 320 nm and an emission wavelength of 450 nm. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 80 mg/mL (181.56 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: 3.3 mg/mL (7.49 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	2.2695 mL	11.3476 mL	22.6953 mL
5 mM	0.4539 mL	2.2695 mL	4.5391 mL
10 mM	0.227 mL	1.1348 mL	2.2695 mL
50 mM	0.0454 mL	0.227 mL	0.4539 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

Zhang J, et al. Pancreatic lipase inhibitory activity of taraxacum officinale in vitro and in vivo. Nutr Res Pract. 2008 Winter;2(4):200-3.

Koster JF, et al. Study of the hydrolysis of 4-methylumbelliferyl oleate by acid lipase and cholesteryl oleate by acid cholesteryl esterase in human leucocytes, fibroblasts and liver. Biochim Biophys Acta. 1980 Apr 18;618(1):98-105.