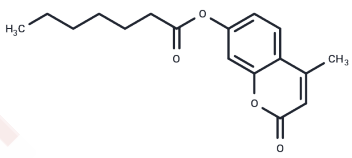
Data Sheet (Cat.No.T83643)

TargetMol

4-Methylumbelliferyl heptanoate

Chemical Properties



CAS No. : 18319-92-1

Formula: C17H20O4

Molecular Weight: 288.34

Storage: Keep away from direct sunlight
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	4-Methylumbelliferyl heptanoate (4-Methylumbelliferyl enanthate) is a lipase fluorescent substrate that detects cell-mediated cytotoxicity and cell proliferation.
Targets(IC50)	Others,Lipase
Cell Research	Instructions 1. Solvent selection: 4-Methylumbelliferyl heptanoate is fat-soluble and is usually dissolved in organic solvents such as ethanol, dimethyl sulfoxide (DMSO), etc. The commonly used solution concentration is 1-10 mM, and the specific concentration is adjusted according to the experimental requirements. 2. Substrate addition: Add the 4-Methylumbelliferyl heptanoate solution to the reaction system containing lipase or other target enzymes. Under the catalytic action of lipase, the substrate will be hydrolyzed to generate a fluorescent product. 3. Reaction conditions: The reaction is usually carried out in a buffer in the pH range of 7-8, and the temperature is usually room temperature or 37°C. The reaction time can be adjusted according to the lipase activity and experimental requirements, usually 10-60 minutes. 4. Product detection: The generated fluorescent product can be detected by a fluorescence spectrophotometer with an excitation wavelength of 360 nm and an emission wavelength of 450 nm. Fluorescence signals in cells can also be quantitatively analyzed using a fluorescence microscope or flow cytometer. 5. Cell proliferation and cytotoxicity assays: 4-Methylumbelliferyl heptanoate is also used in cell experiments as a tool for detecting cell proliferation and cytotoxicity. By measuring the fluorescence intensity, cell growth and survival can be evaluated. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.4681 mL	17.3406 mL	34.6813 mL
5 mM	0.6936 mL	3.4681 mL	6.9363 mL
10 mM	0.3468 mL	1.7341 mL	3.4681 mL
50 mM	0.0694 mL	0.3468 mL	0.6936 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

Makrantonaki E, et al. Interplay of IGF-I and 17beta-estradiol at age-specific levels in human sebocytes and fibroblasts in vitro. Exp Gerontol. 2008 Oct;43(10):939-46.
Makrantonaki E, Zouboulis CC. Testosterone metabolism to 5alpha-dihydrotestosterone and synthesis of sebaceous lipids is regulated by the peroxisome proliferator-activated receptor ligand linoleic acid in human sebocytes. Br J Dermatol. 2007 Mar;156(3):428-32.
Hintz-Obertreis P, Krumwieh D, Seiler FR. Development of a rapid, highly sensitive, non-radioactive assay system for hematopoietic growth factors. Behring Inst Mitt. 1991 Dec;(90):99-103. PMID: 1801697.

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