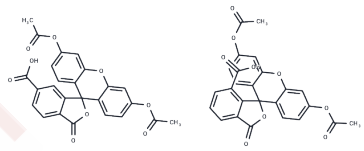
Data Sheet (Cat.No.T18894)

TargetMol

5(6)-CFDA

Chemical Properties



CAS No. : 124387-19-5

Formula: C50H32O18

Molecular Weight: 920.78

Storage: Keep away from direct sunlight,Keep away from moisture
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	5(6)-CFDA (5-(6)-Carboxyfluorescein diacetate) is a cell-permeant esterase substrate that can serve as a viability probe that measures both enzymatic activities, which is required to activate its fluorescence, and cell-membrane integrity, which is required for intracellular retention of their fluorescent product.
Targets(IC50)	Others
Cell Research	Instructions I. Reagent preparation Preparation of stock solution and working solution: Prepare stock solution by dissolving with an appropriate solvent (e.g., dimethyl sulfoxide (DMSO)); the stock solution concentration is usually 1-10 mM, and then dilute it to the working concentration (usually 1-5 μM) according to the experimental requirements. II. Operation steps Cell staining process 1. Cell incubation: 1) Inoculate the cells to be tested into a culture dish or multi-well plate. 2) Add 5(6)-CFDA solution to the cells, ensuring that the concentration is the working concentration (usually 1-5 μM), and incubate at 37°C for 30 minutes to 1 hour. The incubation time can be adjusted according to the cell type and experimental requirements. 2. Washing: After incubation, wash the cells with appropriate culture medium or PBS to remove unhydrolyzed dye. 3. Cell imaging: After washing, the cells can be analyzed by fluorescence microscopy or other imaging equipment. 5(6)-CFDA will emit strong green fluorescence under 492 nm excitation, which is convenient for observing the stained cells. 4. Flow cytometry: Flow cytometry analysis is performed on the stained cells, and the fluorescence intensity can be used to evaluate the activity, proliferation or other related characteristics of the cells. 5. e. v Data analysis: 1) According to the change in fluorescence intensity, the activity, proliferation and other processes of the cells can be evaluated. 2) The data can be further analyzed by comparing the standard curve or the control experimental group with the experimental group.

Cell Research	6. Application: 1) Cell survival and proliferation detection: 5(6)-CFDA is often used in cell survival and proliferation detection. After the cells hydrolyze the dye, the fluorescence intensity is proportional to the number of cells. 2) Cell uptake study: It can be used to study the cell uptake of the dye and its distribution in the cell. 3) Long-term labeling: Since the dye is hydrolyzed by the cells, it can be used to label cells for a long time, which has application value in proliferation experiments and long-term culture studies. Notes: 1. Cell permeability: 5(6)-CFDA is cell permeable, but its hydrolysis into fluorescent products depends on the activity of intracellular esterases. Therefore, only living cells will show fluorescence. 2. Solvent usage: Make sure that the solvent used to dissolve the dye (such as DMSO) does not affect cell activity. 3. Photosensitivity: 5(6)-CFDA is light-sensitive, so strong light exposure should be avoided during operation and storage to prevent fluorescence bleaching. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 237.5 mg/mL (257.93 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 (3.58 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	1.086 mL	5.4302 mL	10.8604 mL
5 mM	0.2172 mL	1.086 mL	2.1721 mL
10 mM	0.1086 mL	0.543 mL	1.086 mL
50 mM	0.0217 mL	0.1086 mL	0.2172 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

Yang T, et al. A novel nonradioactive CFDA assay to monitor the cellular immune response in myeloid leukemia. Immunobiology. 2013 Apr;218(4):548-53.
Card SD, et al. Assessment of fluorescein-based fluorescent dyes for tracing Neotyphodium endophytes in planta. Mycologia. 2013 Jan-Feb;105(1):221-9.
Fang X, et al. Bone marrow-derived endothelial progenitor cells are involved in aneurysm repair in rabbits. J Clin Neurosci. 2012 Sep;19(9):1283-6.

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