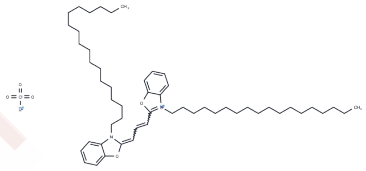
Data Sheet (Cat.No.T40418)

TargetMol

DiO

Chemical Properties



CAS No. : 34215-57-1

Formula: C53H85ClN2O6

Molecular Weight: 881.71

Storage: Store at low temperature,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	DiO (DiOC18(3)) is a fluorescent lipophilic tracer and can be widely used to label cells, organelles, liposomes, viruses, and lipoproteins.
Targets(IC50)	Others
Cell Research	Instructions 1. Solution configuration 1. Mother liquor configuration: DiO is usually dissolved with DMSO, and the reserve concentration is 1-5mM. 2. Working solution configuration: DiO solution is diluted with DMEM/pbs/water, and the final concentration is usually 1-10 μM (the specific concentration can be adjusted according to experimental needs). 2. Cell marking Operation steps: 1. Incubate the cells with DiO solution for a time generally 15-30 minutes (it can also be optimized according to the needs of the cell type). 2. Wash cells with PBS buffer to remove unbound DiO. 3. Observe the cells using a fluorescence microscope (usually green fluorescence, excitation of about 480-500 nm). 2. Organelle marking Operation steps: 1. Prepare the DiO solution and add it to the cell culture medium, usually at a concentration of 1-5 μM. 2. Incubate for 15-30 min under cell culture conditions. 3. Wash cells with PBS to remove unbound dye. 4. Use a fluorescence microscope or flow cytometry to observe the fluorescent label of the organelles. 3. Liposome and lipoprotein markers Operation steps 1. Mix the DiO solution with liposomes or lipoproteins at appropriate concentrations and incubate. 2. Remove unbound dyes in an appropriate manner. 3. Observe the distribution of markers by fluorescence microscopy or other imaging

Cell Research	techniques. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 1.8 mg/mL (2.04 mM),Sonication is recommended. DMF: 9 mg/mL (10.21 mM),Sonication is recommended. H2O: 1.1 mg/mL (1.25 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1342 mL	5.6708 mL	11.3416 mL
5 mM	0.2268 mL	1.1342 mL	2.2683 mL
10 mM	0.1134 mL	0.5671 mL	1.1342 mL
50 mM	0.0227 mL	0.1134 mL	0.2268 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 W, Han YH, Wang HC, Lu CT, Yu XC, Zhao YZ. Intradermal injection of icariin-HP-β-cyclodextrin improved traumatic brain injury via the trigeminal epineurium-brain dura pathway. J Drug Target. 2022 Jun;30(5):557-566.
Bhowmik BB, Basu S, Ray D. Photophysical studies of 3,3' dioctadecyloxacarbocyanine dye in model biological membranes and different solvents. Chem Phys Lipids. 2001 Feb;109(2):175-83.
Warren GL,et al. Redistribution of cell membrane probes following contraction-induced injury of mouse soleus muscle. Cell Tissue Res.

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