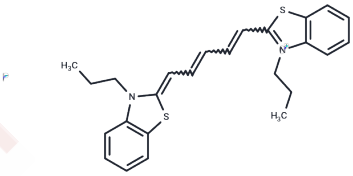
Data Sheet (Cat.No.T67628)

TargetMol

DiSC3(5)

Chemical Properties



CAS No. : 53213-94-8

Formula: C25H27IN2S2

Molecular Weight: 546.53

Storage: Keep away from direct sunlight,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	DiSC3(5) is a lipophilic cationic fluorescent probe sensitive to changes in membrane potential. 3,3'-Dipropylthiadicarbocyanine iodide accumulates in hyperpolarized cell membranes, leading to fluorescence quenching; when the membranes are depolarized, the dye is released from the cells and the fluorescence intensity is enhanced, which is used for real-time monitoring of mitochondrial membrane potential changes and membrane hyperpolarization. The maximum excitation/emission wavelength was 622/670 nm.
Targets(IC50)	Others
In vitro	Instructions I. Solution preparation 1. Stock solution preparation: Stock solutions are prepared at 1-5 mM in DMSO or EtOH. Note: The unused portion of the stock solution should be stored at -20°C. Avoid repeated freezing and thawing. 2. Working solution preparation: Dilute the stock solution into a suitable buffer, such as pure DMEM, HBSS or PBS, to make a 1 to 5 uM working solution. Note: The concentration of the working solution should be determined empirically for different cell types and/or experimental conditions. It is recommended to test at concentrations over a range of at least ten times. II. Operation steps 1. Staining suspended cells: 1) Suspend cells in the dye working solution at a density of 1×10^6/mL. 2) Incubate at 37°C for 2-20 minutes. The incubation time depends on the cell type. Incubate for 20 minutes first, then optimize as needed to obtain uniform labeling. 3) Centrifuge the labeled suspension tube at 1000 to 1500 rpm for 5 minutes. 4) Remove the supernatant and gently resuspend the cells in pre-warmed (37°C) growth medium. 5) Wash twice. 2. Staining adherent cells: 1) Grow adherent cells on sterile glass coverslips. 2) Remove the coverslips from the growth medium and gently drain the excess medium. Place the coverslips in a humidity chamber. 3) Pipette 100 µL of the dye working solution into the corner of the coverslip and gently

In vitro	agitate until all cells are covered. 4) Incubate the coverslips at 37°C for 2-20 minutes. Incubation time varies depending on cell type. Start with a 20-minute incubation and optimize as needed to obtain uniform labeling. 5) Drain the dye working solution and wash the coverslips two to three times with growth medium. For each wash cycle, cover the cells with pre-warmed growth medium, incubate for 5-10 minutes, and then drain the medium. III. Microscope detection. IV. Flow cytometer detection: Cells labeled with DiS can be analyzed using the conventional FL3 flow cytometer detection channel. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 4 mg/mL (7.32 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.8297 mL	9.1486 mL	18.2973 mL
5 mM	0.3659 mL	1.8297 mL	3.6595 mL
10 mM	0.183 mL	0.9149 mL	1.8297 mL
50 mM	0.0366 mL	0.183 mL	0.3659 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

Smith TC, et al. The effect of the fluorescent probe, 3,3'-dipropylthiodicarbocyanine iodide, on the membrane potential of Ehrlich ascites tumor cells. Biochem Biophys Res Commun. 1980 Jul 31;95(2):722-7.
Yamamoto T, et al. Multiple effects of DiS-C3(5) on mitochondrial structure and function. Eur J Biochem. 2004;271 (17):3573-3579.
Sims PJ, et al. Studies on the mechanism by which cyanine dyes measure membrane potential in red blood cells and phosphatidylcholine vesicles. Biochemistry. 1974 Jul 30;13(16):3315-30.