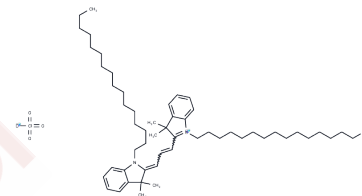


DiIC16(3)

Chemical Properties

CAS No. :	84109-11-5
Formula:	C ₅₅ H ₈₉ ClN ₂ O ₄
Molecular Weight:	877.76
Storage:	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	DiIC16(3), a long-chain carbocyanine dye, is extensively utilized for labeling cells, organelles, liposomes, viruses, and lipoproteins [2].
Targets(IC50)	Others
In vitro	<p>Carbocyanine dyes serve as lipophilic tracers used for labeling cells, organelles, liposomes, viruses, and lipoproteins. Long-chain carbocyanines include DiO (DiOC18(3)), DiI (DiIC18(3)), DiD (DiIC18(5)), and DiR, as well as the dialkylaminostyryl dye DiA (4-Di-16-ASP) for labeling membranes and other hydrophobic structures. The alkyl group of DiIC16(3) (C16) is shorter than that of DiI (C18). These dyes exhibit high extinction coefficients in lipid environments, environment-dependent fluorescence, and short excited-state lifetimes. They show weak fluorescence in aqueous solutions but are highly fluorescent and photostable when bound to membranes or lipophilic biomolecules, making them suitable for staining plasma membranes. Upon application, these dyes diffuse laterally within the plasma membrane, resulting in uniform cell staining. DiO, DiI, DiD, and DiR exhibit distinct green, orange, red, and infrared fluorescence, respectively, facilitating multicolor imaging and flow cytometry analysis of live cells. DiO and DiI are suitable for the standard FITC and TRITC fluorescence channels. DiI and its derivatives are commonly used due to their low cytotoxicity and are extensively utilized in lipoprotein assays such as LDL and HDL detection. The lipophilic aminostyryl dye DiA is also frequently used for neuronal tracing.</p> <p>Preparation of Di Staining Solution: 1.1. Prepare stock solutions of 1-5 mM in dimethylformamide (DMF), dimethyl sulfoxide (DMSO), or ethanol. DMF is a preferred solvent for Di. Use the stock solution promptly; any unused solution can be aliquoted and stored at -20°C for up to 6 months, avoiding repeated freeze-thaw cycles. 1.2. Dilute the stock into an appropriate buffer, such as serum-free media, HBS, or PBS, to a 1-5 μM working solution. The final concentration should be determined experimentally.</p> <p>For Suspended Cells: 2.1. Centrifuge to collect cells and wash twice with PBS, 5 minutes each. Maintain a cell density of 1×10⁶/mL. 2.2. Add 1 mL Di working solution and incubate at room temperature for 5-30 minutes. 2.3. Centrifuge at 400 g, 4°C for 3-4 minutes; discard supernatant. 2.4. Wash cells twice with PBS, 5 minutes each. 2.5. Resuspend cells in 1 mL serum-free medium or PBS, then observe with fluorescence microscopy or flow cytometry.</p>

In vitro	<p>For Adherent Cells: 3.1. Cultivate cells on sterile coverslips. 3.2. Remove coverslips from the medium and aspirate excess culture medium. 3.3. Add 100 μL dye working solution, gently agitate to cover cells, and incubate for 5-30 minutes. 3.4. Remove dye solution, wash with medium 2-3 times, 5 minutes each, and observe using fluorescence microscopy or flow cytometry.</p> <p>The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.</p>
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.1393 mL	5.6963 mL	11.3926 mL
5 mM	0.2279 mL	1.1393 mL	2.2785 mL
10 mM	0.1139 mL	0.5696 mL	1.1393 mL
50 mM	0.0228 mL	0.1139 mL	0.2279 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.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

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