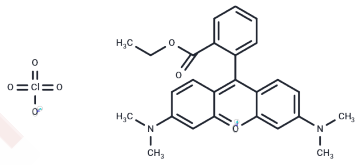
Data Sheet (Cat.No.T19072)

TargetMol

TMRE perchlorate

Chemical Properties



CAS No. : 115532-52-0

Formula: C26H27ClN2O7

Molecular Weight: 514.95

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	TMRE (Tetramethylrhodamine ethyl ester perchlorate) is a mitochondria specific dye (λex: 550 nm, λem: 575 nm).
Targets(IC50)	Others
In vitro	Multidirectional dynamic movement of TMRE is observed in epithelial cells and bidirectional dynamic movement is seen in the superficial cortical fiber cells of live bovine lenses. In the epithelium, the movement of TMRE fluorescence is up to 5 μm/min whereas in the superficial cortex the observed movement is up to 18.5 μm/min. The movement of TMRE fluorescence is abolished with the treatment of the uncoupler, carbonyl cyanide m-chlorophenylhydrazone [2].
Cell Research	Instructions for use I. Solution preparation 1. Preparation of stock solution: Dissolve 1 mg TMRE in DMSO to obtain 5 mM stock solution; (It is recommended to store at -20 ℃ or -80 ℃ in the dark after aliquoting) 2. Preparation of working solution: Dilute the stock solution with serum-free cell culture medium or PBS to obtain a working solution with a final concentration of 1-20 μM. (Select the appropriate working solution concentration according to experimental requirements and prepare it for immediate use) II. Operation steps 1. Cell staining Suspended cells (6-well plate) 1) Centrifuge at 1000 g for 3-5 minutes at 4℃, then discard the supernatant. Wash twice with PBS for 5 minutes each. The cell density is 1×106/mL. 2) Add 1 mL of working solution and incubate at room temperature for 5-30 minutes. 3) Centrifuge at 400 g for 3-4 minutes at 4℃, and discard the supernatant. 4) Wash twice with PBS, 5 minutes each time. 5) Resuspend cells with serum-free cell culture medium or PBS. Observe with fluorescence microscope or flow cytometer. 2. Adherent cells 1) Culture adherent cells on sterile coverslips. 2) Remove coverslips from culture medium and aspirate excess culture medium. 3) Add 100 μL working solution, shake gently to completely cover cells, and incubate at room temperature for 30-60 minutes.

Cell Research	4) Wash twice with culture medium, 5 minutes each time. Observe with fluorescence microscope or flow cytometer. The above information is based on published literature. Experimental procedures should be appropriately modified to meet specific research demands.

Solubility Information

Solubility	DMSO: 27.78 mg/mL (53.95 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: 2 mg/mL (3.88 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	1.9419 mL	9.7097 mL	19.4194 mL
5 mM	0.3884 mL	1.9419 mL	3.8839 mL
10 mM	0.1942 mL	0.971 mL	1.9419 mL
50 mM	0.0388 mL	0.1942 mL	0.3884 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

Bantseev V, Sivak JG. Confocal laser scanning microscopy imaging of dynamic TMRE movement in the mitochondria of epithelial and superficial cortical fiber cells of bovine lenses. Mol Vis. 2005 Jul 14;11:518-23.
Bantseev V, et al. Confocal laser scanning microscopy imaging of dynamic TMRE movement in the mitochondria of epithelial and superficial cortical fiber cells of bovine lenses. Mol Vis. 2005 Jul 14;11:518-23.

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