

Product Name: CM-Dil Membrane Probe
(Orange-Red)
Catalog Number: RA20007

Basic Information

Product Name	CM-Dil Membrane Probe (Orange-Red)
Size	20 µg, 1 mg
Storage	-20 °C, protected from light
Shipping	Shipped with ice pack
Validity	12 months
Ex/Em	549/565nm

Product Introduction

CM-Dil Membrane Probe is a derivative of Dil and has better solubility in water than Dil. It can freely cross the cell membrane to enter cells and then be converted into a reaction product that is impermeable to the cell membrane. The CM-Dil dye can be retained in living cells through several generations of culture. The CM-Dil dye can stably emit fluorescence for at least 72 hours and has ideal tracking properties. It also has the advantages of being stable in nature, non-toxic at working concentrations, and having good cell retention. It can have bright fluorescence under physiological pH conditions. In addition, the excitation and emission spectra of CM-Dil are well separated from the GFP (green fluorescent protein) spectra, allowing for multiplexing in multiple colors.

CM-Dil contains a mild thiol-reactive chloromethyl substituent, which covalently binds to peptides and proteins containing thiol groups. This allows it to cross-link with fixatives containing aldehyde groups. After fixation, the staining signal is not lost. Compared with non-covalent dyes such as Dil, it is more suitable for staining fixed cells.

Reagent preparation

Staining solution preparation

(1) Prepare DMSO or DMF stock solution: Prepare the stock solution in DMSO or DMF to a concentration of 1 mM .

Note: Store unused stock solution in aliquots at -20°C to avoid repeated freezing and thawing.

(2) Preparation of working solution: Dilute the stock solution with a suitable buffer (e.g. serum-free culture medium, HBSS or PBS) to prepare a working solution with a concentration of 1-5 µM.

Note: The final concentration of the working solution is recommended to be optimized according to different cell lines and experimental systems. It is recommended to start exploring the optimal concentration within 10 times the recommended concentration.

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Experimental procedures

Incubate the cells with the working solution at 37°C for 60 min. After labeling, wash the cells with PBS and resuspend them in fresh culture medium. For adherent cells, labeling during adherent culture will increase cell viability compared to labeling after digestion into suspension.

The following steps are optional:

Cell Tracker CM- Dil staining is compatible with subsequent fixation and permeabilization.

- (1) Fixation: Use 3.7% paraformaldehyde (dissolved in PBS) at room temperature for 10 min. Wash
- (2) twice with PBS at room temperature, 5 min each time.
- (3) Permeabilization. Permeabilize with acetone at -20°C for 10 min. Wash twice with PBS at room temperature, 5 min each time.

Note: This reagent is for scientific research use only!