Product Name: DiR Membrane Probe (Near-Infrared)

Product number: RA20006

Basic Information

Product Name	DiR Membrane Probe (Near-Infrared)
Size	5 mg
Storage	Store at -20 ℃, protected from light
Shipping	Shipped with ice pack
Validity	12 months
Ex/Em	748/780 nm

Product Introduction

DiR is a near IR fluorescent, lipophilic carbocyanine and widely used as a lipophilic tracer. It is weakly fluorescent in water but highly fluorescent when incorporated into membranes. It has an extremely high extinction coefficient and short excited-state lifetimes (~1 nanosecond) in lipid environments. Once applied to cells, the dye diffuses laterally within the plasma membrane.

Reagent preparation

(1) Preparation of stock solution: The stock solution is prepared with anhydrous DMSO or EtOH at a concentration of 1~5 mM.
Note: Unused stock solution should be stored in aliquots at -20℃ to avoid repeated freezing and thawing.

(2) Preparation of working solution: Dilute the stock solution with an appropriate buffer (e.g. serum-free 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 a range of 10 times the recommended concentration.

Experimental procedures

Suspension cell staining

(1) Add an appropriate volume of staining working solution to resuspend the cells to a density of 1×10^6 cells/mL.
(2) Incubate the cells at 37°C for 2 to 20 minutes. The optimal incubation time varies for different cells. You can use 20 minutes as the initial incubation time, and then optimize the system to obtain a uniform labeling effect.
(3) At the end of incubation, centrifuge at 1000-1500 rpm for 5 min. Pour off the supernatant and slowly add 37°C preheated growth medium to resuspend the cells.
(4) Repeat step (3) two more times.

Adherent cell staining

(1) Culture adherent cells on sterile coverslips.
(2) Remove the coverslip from the medium, aspirating any excess, but leaving the surface wet.
(3) Add 100 μL of dye working solution to one corner of the coverslip and gently shake to allow the dye to evenly cover all cells.
(4) Incubate the cells at 37°C for 2 to 20 minutes. The optimal incubation time varies for different cells. You can use 20 minutes as the initial incubation time, and then optimize the system to obtain a uniform labeling effect.
(5) Aspirate the dye working solution, wash the coverslip 2-3 times with culture medium, cover all cells with pre-warmed culture medium each time, incubate for 5-10 min, and then aspirate the culture medium. However, keep the surface moist.

Note: This reagent is for scientific research use only!