Product Information

CytoMBrite™ NIR680 Cytoplasmic Membrane Dye

Catalog Number: C4044

Product Size: 20 μL (2 mM in DMSO)

Application Scope: Membrane staining, cell tracing, tracking, cellular imaging

Parameters

Ex/Em: 683/724 nm

Storage

Store at roomtemperature and protect from light. When stored as directed, product is stable for at least 12 months.

Description

CytoMBrite™ NIR680 Cytoplasmic Membrane Dye is a novel near-infrared carbocyanine dye for labeling the cytoplasmic membranes of living cells. The dye is used as tracer in cell-cell fusion, cellular adhesion, and migration applications several weeks due to their properties of low cytotoxicity and high resistance to intercellular transfer. The dyes have long 18-carbon hydrophobic tails and an additional water-soluble group. These unique chemical structure elements make the dyes easy to dissolve while providing highly stable cytoplasmic membrane staining, unlike traditional carbocyanine dyes like DiI, DiO, and DiR, which are often difficult to dissolve or prone to precipitation during cell staining. CytoMBrite™ NIR680 is compatible with both confocal microscopy and near-infrared imaging systems, also compatible with animal NIR imaging systems.

Cells can be fixed with formaldehyde either before or after CytoMBrite™ NIR680 staining, but not recommended for permeabilization. The dye is not suitable for bacteria or yeast.

Protocol

1. Suspension cell staining

(1) Prepare staining solution by diluting CytoMBrite™ NIR680 1:2000 in culture medium for a final concentration of 1 uM.

(2) Pellet cells by centrifugation at 1200 rmp for 5 minutes.

(3) Remove supernatant and resuspend cells with the staining solution at a density of 1×10^6/mL.

(4) Incubate at 37°C for 20 minutes. The optimal staining time will vary depending on cell type. Start with 20 minutes and optimize as needed to get uniform labeling.

(5) Pellet the cells by centrifugation at 1200rmp for 5 minutes.

(6) Remove the supernatant and wash the cells by 37°C medium gently.

(7) Repeat the centrifugation and wash (Steps 4 and 5) twice.

(8) Image fluorescence. Cells can be imaged in culture medium.

2. Labeling Live Adherent Cells

(1) Prepare staining solution by diluting CytoMBrite™ NIR680 1:2000 in culture medium for a final concentration of 1 uM.

(2) Remove growth medium from the cells.

(3) Add enough staining solution to completely cover the cells.

(4) Incubate the cells at 37°C. The optimal staining time will vary depending on the cell type. Start with 20 minutes and optimize as needed to get uniform labeling.

(5) Remove the staining solution.

(6) Wash the cells with warm growth medium and incubating at 37°C for 5 minutes. Repeat the wash step twice.

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(7) Image fluorescence. Cells can be imaged in culture medium.

Notes

1. There are quenching problems with fluorescent dyes. Please avoid light to slow down the fluorescence quenching.

2. For your safety and health, please wear lab coats and disposable gloves.

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