

Product Data Sheet

Product Name: CellTracker Blue CMAC

Cat. No.: GC20191

Chemical Properties

Cas. No. 147963-22-2

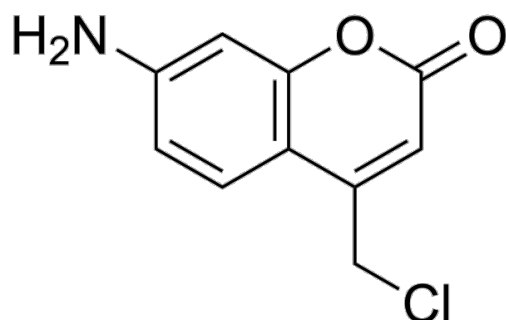
Formula $C_{10}H_8ClNO_2$ M.Wt 209.63

Solubility DMSO : 125 mg/mL (596.29 mM; Need ultrasonic) Storage $-20^{\circ}C$

General tips For obtaining a higher solubility , please warm the tube at $37^{\circ}C$ and shake it in the ultrasonic bath for a while. Stock solution can be stored below $-20^{\circ}C$ for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



Protocol

Caution: Product has not been fully validated for medical applications. For research use only.

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This protocol only provides guidance; please modify it according to your specific needs.

1. Preparation of Staining Solution

(1) Prepare the stock solution: Dissolve CellTracker Blue CMAC powder in DMSO to prepare a stock solution with a concentration of 1-25mM.

Note: Unused stock solution should be aliquoted and stored at -20°C or -80°C in the dark to avoid repeated freeze-thaw cycles.

(2) Prepare the working solution: Dilute the stock solution with an appropriate buffer (e.g., serum-free culture medium or PBS) to prepare a working solution with a concentration of 0.5-25µM.

Note: Adjust the concentration of the working solution according to actual conditions, and prepare it fresh as needed.

2. Cell Suspension Staining

(1) Suspend cells: Centrifuge at 4°C, 1000g for 3-5min, discard the supernatant, and wash twice with PBS.

(2) For adherent cells: Wash twice with PBS, add trypsin to digest the cells, and after digestion is complete, centrifuge at 1000g for 3-5min.

(3) Add 1mL of CellTracker Blue CMAC working solution to resuspend the cells and incubate at 37°C in the dark for 15-45min. The optimal incubation time may vary for different cells; please adjust according to specific experimental requirements.

(4) After incubation, centrifuge at 1000g for 5min, remove the supernatant, and wash with PBS 2-3 times for 5min each.

(5) Resuspend the cells in pre-warmed serum-free cell culture medium or PBS.

3. Cell Adhesion Staining

(1) Culture adherent cells on sterile cover slips.

(2) Remove the cover slip from the culture medium, blot out excess medium, and place the cover slip in a humid environment.

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(3) Add 100µL of the dye working solution from one corner of the cover slip and gently rock to ensure even coverage of all cells with the dye.

(4) Incubate at 37°C in the dark for 15-45min. The optimal incubation time may vary for different cells; please adjust according to specific experimental requirements.

(5) After incubation, aspirate the dye working solution and wash the cover slip with pre-warmed culture medium 2-3 times.

4. Microscope Detection: The maximum excitation/emission wavelengths for CellTracker Blue CMAC are 353/466nm.

Precautions:

①Fluorescent dyes are subject to quenching; please avoid light exposure as much as possible to slow down fluorescence quenching.

②For your safety and health, please wear a lab coat and disposable gloves when handling.

Background

CellTracker Blue CMAC is a live cell tracking probe (Ex/Em: 353/466nm) that emits bright blue fluorescence^[1]. CellTracker Blue CMAC can freely penetrate the cell membrane into the cell and converted into reaction products that are not cell membrane permeable. It can be used to monitor cell movement, localization, proliferation, migration, chemotaxis, and invasion.

References:

[1] Lee DY, Lim KS, Valencia GM, et al. One-Step Method for Instant Generation of Advanced Allogeneic NK Cells. Advanced Science. 2018 Nov;5(11):1800447.

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