MQAE chloride ion fluorescent probe

Cat: IM4990

Storage: Powder: -20℃, 2 years; Insolvent (mother liquid): -20℃, 6 months; -80℃, 1 year (protect from light)

Introduction

MQAE chloride ion fluorescent probe is a fluorescent probe for the detection of chloride ions, and its fluorescence is dependent on the concentration of chloride ions. The fluorescence intensity of MQAE decreases proportionally with the increase of chloride ions in the cell. MQAE is the newest type of fluorescent probe for chloride ions, which is currently the most widely used. MQAE has a bromide ion as a pair anion, and has a maximum excitation wavelength of about 350 nm, and a maximum emission wavelength of about 460 nm. The fluorescence intensity of MQAE decreases proportionally with the increase of chloride concentration. The fluorescence intensity of MQAE is virtually unaffected by pH changes at chloride concentrations below 50 mM. MQAE has a high membrane permeability and can detect chloride concentrations below 50 mM without being affected by pH changes. MQAE can be used for fluorescence detection in confocal microscopy and flow cytometry.

Parameter

Ex/Em: 350/460 nm

CAS: 162558-52-3

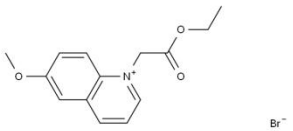
Molecular Formula: $C_{14}H_{16}BrNO_3$

Molecular Weight: 326.19

Purity: ≥98%

Appearance: Soild

Solubility: Soluble in Water/DMSO ≥5mg/mL



Protocols (*only for reference*)

Preparation of working fluid

Krebs-HEPES buffer was used to prepare a 5-10 mM MQAE working solution. A 5 mM MQAE working solution was obtained by dissolving 1.63095 mg of MQAE powder in 1 mL of Krebs-HEPES buffer.

Note: Krebs-HEPES buffer formulation: 20 mM HEPES, 128 mM NaCl, 2.5 mM KCl, 2.7 mM $CaCl_2$, 1 mM $MgCl_2$, 16 mM Glucose, pH 7.4.

MQAE staining

1. Wash the cells 3 times with Krebs-HEPES buffer.
2. Add MQAE working solution and incubate at 37°C for 30-60 min. (It is recommended to use MQAE to stain cells with a recommended density of 8-10 × 10^6/mL.)
3. Wash the cells with Krebs-HEPES buffer 5 times.

4. Observe using a fluorescence microscope or flow cytometer.

Note

1. The concentration of MQAE when labeling cells is usually 5-10 mM. The final concentration of the working solution is recommended to be optimized according to different cell lines and experimental systems.
2. Please adjust the concentration and incubation time of MQAE working solution according to the actual situation, and use it now.
3. When it is found to be more difficult to dissolve it can be properly sonicated to promote dissolution.
4. All fluorescent dyes have quenching problems, please try to avoid light to slow down the fluorescence quenching.
5. For your safety and health, please wear lab coat and disposable gloves.
6. This product is for scientific research use only. Do not use in medicine, clinical diagnosis or treatment, food and cosmetics. Please do not store in ordinary residential areas.