Product Information

BCECF, AM ester
(2',7'-bis-(2-carboxyethyl)-5-(and 6-)carboxyfluorescein, acetoxymethyl ester)

Catalog Number: B3006

Packaging Size: 1 mg

Product Description

Color & Form & Solubility: White solid soluble in DMSO or DMF

CAS number: 117464-70-7

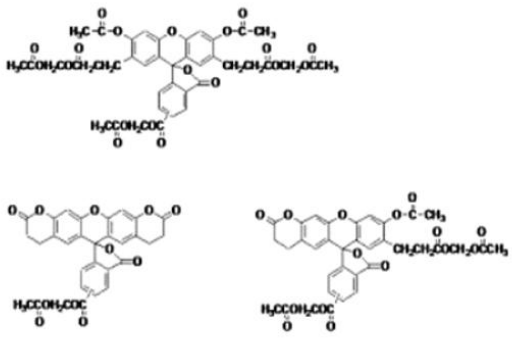
Shelf life: 12 months

λ Ex/λ Em =505 nm/520 nm

Molecular formula: mixture（$C_{30}H_{20}O_{11}$, $C_{35}H_{28}O_{15}$, $C_{40}H_{36}O_{19}$）

Molecular weight: approx. 688.59

Molecular Structural Formula:



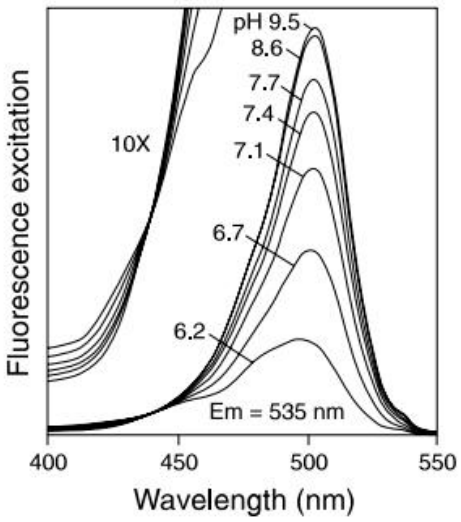
Storage

Store desiccated at -20℃ and protect from light, especially in solution.

Description

BCECF,AM is a fluorescent dye that can penetrate the cell membrane to detect intracellular pH. BCECF,AM has no fluorescence itself. When they enter the cell, they can be cut by esterase in the cell to form BCECF, which can be retained in the cell. BCECF can be stimulated to form green fluorescence at appropriate pH. The maximum excitation wavelength and emission wavelength vary with the pH. The maximum excitation wavelength is about 503 nm, the maximum emission wavelength is about 520 nm. The recommended excitation wavelength is 488 nm and the emission wavelength is 535 nm.

Although applications in mammalian cells are predominant, BCECF has also been employed for pH measurements in perfused tissues, intercellular spaces, plant cells, bacteria and yeast. BCECF,AM has also been employed in assays for various functional properties of cells including viability, cytotoxicity, apoptosis, adhesion, multidrug resistance and chemotaxis. The emission spectra of BCECF at different pH are shown below.



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Application Protocols

(Take human neutrophils for example) *

1. Reagent

1 mM BCECF,AM in DMSO

HEPES buffer solution (20 mM HEPES, 153 mM NaCl, 5 mM KCl, 5 mM glucose, pH 7.4)

2. Protocols

1 ） Cell suspension was prepared by HEPES with cell concentration of 4×10^7/mL.

2 ） 1 mM BCECF, AM/DMSO solution were added into cell suspension (1/300 volume of cell suspension), the final concentration of BCECF, AM was 3 mM.

3 ）Incubation at 37℃ for 30 minutes.

4 ） Wash the cells three times with HEPES buffer and then prepare cell suspension with the concentration of 3×10^6/mL .

5 ）Detection of fluorescence intensity of cells by fluorescence microscopy or laser copolymerization microscopy with image analysis system

* The conditions for labeling vary according to the cell type. Before each experiment, please take a test to get the best conditions. The above methods are for reference only.

Notes

1. BCECF,AM (pH fluorescent probe, 5 mM) may be harmful to human body, please pay attention to appropriate protection.
2. BCECF,AM will solidify and stick to the bottom, wall or cap of centrifugal pipe at lower temperature such as 4℃, ice bath, etc. It can be incubated in water bath at 20-25℃ for a short time until it is completely melted.
3. Quenching of fluorescent dyes is a problem. Please avoid light as much as possible to slow down the quenching of fluorescent dyes.
4. For your safety and health, please wear lab coats and disposable gloves.

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