

Product Information

BCECF, AM ester

Catalog Number: B3006-1 mg, B3016-5 mM

Product Size: 1 mg, 50 µL

Parameters

Appearance: White solid soluble in DMSO and DMF (B3006)

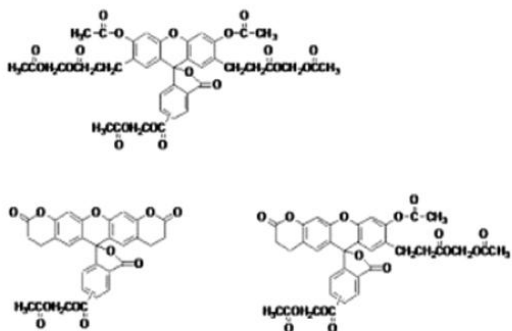
λ Ex/ λ Em = 505/520 nm

CAS No.: 117464-70-7

Molecular Formula: (C₃₀H₂₀O₁₁, C₃₅H₂₈O₁₅, C₄₀H₃₆O₁₉)

Molecular Weight: 688.59

Molecular Structure:



Storage

Store at -20°C and protect from light. When stored as directed, product is stable for at least 12 months.

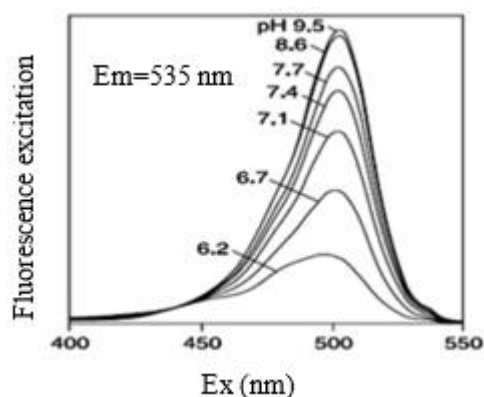
Description

BCECF, AM ester is membrane-permeant and thus can be loaded into cells via incubation. This product is a mixture of three molecular species, all of which are readily hydrolyzed by endogenous esterases into a single BCECF free acid form once they are in the cells. BCECF can be excited to form green fluorescence under appropriate pH conditions. The maximum excitation wavelength and emission wavelength vary depending on the pH. The maximum excitation wavelength is

around 503 nm and the maximum emission wavelength is around 520 nm. The recommended excitation wavelength for practical detection 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 and cytotoxicity, apoptosis, adhesion, multidrug resistance and chemotaxis.

The emission spectrum of BCECF under different pH conditions is shown in the figure below.



Protocol (Take human neutrophil as an example)

1. Reagent

1 mM BCECF, AM/DMSO

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



2. Operation

For solid BCECF, AM ester, please use an appropriate volume of anhydrous DMSO to prepare a certain concentration of stock solution before use; BCECF, AM ester in the solution state can be diluted to the working concentration. The usual working concentration is 1-10 μM .

- ① Cell suspensions were prepared with HEPES at a cell concentration of $\sim 10^6$ cells / mL.
- ② Add 5 mM BCECF, AM / DMSO solution to the cell suspension (1/1000 volume of cell suspension). The final concentration of BCECF, AM is 5 μM .
- ③ Incubate at 37° C for 30 min.
- ④ Wash the cells 2-3 times with HEPES buffer.
- ⑤ Fluorescence intensity of the cells is measured by fluorescence microscope or confocal laser scanning microscope with image analysis system.

* Labeling conditions vary by cell type. Please determine the optimal conditions before each experiment. The above methods are for reference only.

Notes

1. BCECF, AM may be harmful to human body, please pay attention to proper protection.
2. The BCECF, AM will solidify and stick to the bottom, wall or cap of the centrifuge tube at lower temperatures such as 4 °C and ice bath. It can be used after incubating in a water bath at 20-25 °C for a while until it is completely melted.
3. There are quenching problems with fluorescent dyes. Please avoid light to slow down the fluorescence quenching.
4. For your safety and health, please wear lab coats and disposable gloves.

