

BODIPY 581/591 C11

Introduction

BODIPY 581/591 C11 is a cell-permeable, ratiometric fluorescent probe that can indicate lipid peroxidation levels and antioxidant properties within model membrane systems or living cells. Under normal circumstances, BODIPY 581/591 C11 is in a reduced state, and its excitation and emission wavelengths are 581/591 nm, which is red fluorescence; and when the polyunsaturated butadienyl moiety of BODIPY 581/591 C11 is oxidized, its emission wavelength shifts from 590 nm to 510 nm, and the excitation wavelength and emission wavelength are 488/510 nm, which is green fluorescence. BODIPY 581/591 C11 has good photostability, high quantum yield, and is sensitive to oxygen radicals and peroxynitrite, but not to superoxide, nitric oxide and hydrogen peroxide.

Components and Storage

Components	C8003-1 mg
BODIPY 581/591 C11	1 mg
This product should be stored at -20°C away from light and moisture. Stable for 2 years.	

Properties

Physical Appearance	Solid
CAS	217075-36-0
M.Wt	504.42
Formula	C ₃₀ H ₃₅ BF ₂ N ₂ O ₂
Ex/Em	581/591 nm (reduced); 488/510 nm (oxidized)

Protocol

- Preparation of the stock solution:** Dissolve 1mg BODIPY 581/591 C11 in 198.3 µL anhydrous DMSO to make a 10 mM stock solution. The stock solution should be stored at -20°C away from light. It is recommended to aliquot the stock solution into small volumes and avoid repeated freeze/thaw cycles.

***Note:** Allow BODIPY 581/591 C11 to warm to room temperature before using and centrifuge for several seconds to make the probe at the bottom of the tube.

- Preparation of the working solution:** Dilute the stock solution in a suitable buffer (for example, PBS) or growth medium to make a 10 µM working solution. It is suggested to dilute BODIPY 581/591 C11 when using

it.

***Note:** The optimal concentration of the working solution varies depending on the type of cells.

- 3. Labeling of cells:** For adherent cells, grow cells to reach the desired density. Remove the growth medium and add a BODIPY 581/591 C11 working solution to cover the cells. Incubate at 37°C away from light for 30 min. Remove the working solution after incubation, and wash cells with PBS 2-3 times. Then detect the fluorescence signal at excitation/emission of 581/591 nm for the reduced dye, and the other at excitation/emission of 488/510 nm for the oxidized dye.

***Note:** The optimal time for incubation varies depending on the type of cells. For suspension cells, harvest cells and perform similarly to the adherent cells.

Note

1. Fluorescent probes are easy to quench, please protect them from light when using.
2. For your safety and health, please wear lab coats and gloves during the experiment.
3. For research use only. Not to be used in clinical diagnostic or clinical trials.



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