ER Yellow Probe (Aggregation-induced emission, AIE)

A1456422

Storage temperature: -20℃. Avoid freeze/thaw cycle. Store in the dark.

Introduction

AIE ER Yellow Probe is an endoplasmic reticulum fluorescent probe based on the AIE principle, with typical AIE characteristics. The product has transmembrane transport ability; simply by incubating it with cells, it can label the endoplasmic reticulum.

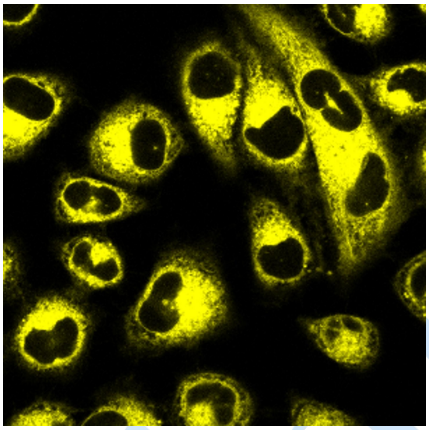

Figure 1. Imaging effect on HeLa cells

Product Characteristics

AIE ER Yellow Probe has excellent aggregation-induced emission properties and can specifically label the endoplasmic reticulum of various cells. Before and after binding to the endoplasmic reticulum, due to changes in the aggregation state, its fluorescence intensity undergoes extremely significant changes, while fluorescent probes not bound to the endoplasmic reticulum basically do not emit fluorescent signals.

Different from common dyes, AIE ER Yellow Probe has a large Stokes shift, which can clearly distinguish it from other dyes, reducing the possibility of crosstalk in imaging. Meanwhile, AIE ER Yellow Probe has good biocompatibility and high imaging concentration, and can ensure stable fluorescence signal output even during multiple scans, making it very suitable for multiple imaging.

Product Properties

Chemical Formula	$C_{35}H_{27}NO_6$
Molecular Weight	557.60
Full Width at Half Maximum (nm)	550 - 625
Working Concentration	5 - 10 μM

Maximum Absorption/Emission Wavelength (nm)	λabs = 317 nm / Em = 576 nm

Product Advantages

1. Relatively low cytotoxicity, suitable for live cell imaging;
2. Strong anti-photobleaching ability; after 40 laser scans totaling 15 minutes, the emitted fluorescence intensity remains unchanged;
3. Low background signal, enabling rapid imaging.

Experimental Methods

1. Preparation of stock dye solution: After brief centrifugation, aliquot the dye solution appropriately and store it in the dark at -20°C or lower;
2. Preparation of working dye solution: Take 1 μL of AIE ER Yellow Probe stock solution and add it to 1-2 mL of cell culture medium or an appropriate buffer (e.g., PBS) to obtain an AIE ER Yellow Probe working solution with a final concentration of 5-10 μM;
3. Cell staining: Incubate adherent cells with an appropriate amount of the working solution for 40 minutes (preferably in a cell culture incubator). Wash three times with PBS. Observe using a confocal fluorescence microscope or a fluorescence microscope. Set the excitation wavelength to 405 nm and collect signals at 550-600 nm.

Precautions

1. Centrifuge briefly before use;
2. When using for the first time, aliquot and store at -20°C to avoid repeated freezing and thawing;
3. For your safety and health, please wear a lab coat and disposable gloves;
4. This product is only for scientific research use.