Lipid droplets Yellow Probe (AIE)

A1456405

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

Introduction:

Lipid droplets Yellow Probe (AIE) is a triphenylamine derivative developed based on the AIE principle and has typical AIE characteristics. The product has cell transmembrane ability; simply by incubating with cells, transmembrane transport can be completed through passive transport.

Product Characteristics

Lipid droplets Yellow Probe (AIE) has excellent aggregation-induced emission properties and can specifically label the lipid droplet structures in various cells. Due to changes in the aggregation state before and after binding to lipid droplets, its fluorescence intensity undergoes extremely significant changes. The fluorescent probes that do not bind to lipid droplets basically do not emit fluorescent signals.

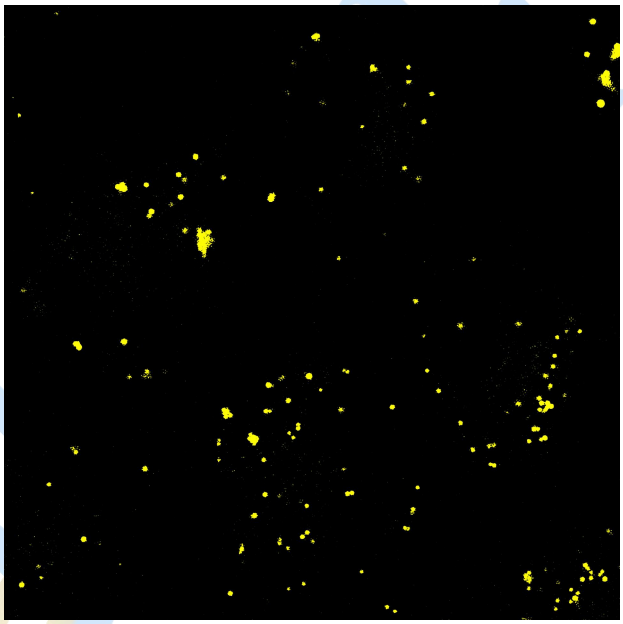

Figure 1. Laser confocal imaging effect diagram of HeLa cells

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

Product Properties

Product Properties	Details
Formula	$C_{28}H_{19}NO_2$
Molecular Weight	401.47 g/mol
Purity	≥98% (HPLC)
Working Concentration	5-10 μM
Full Width at Half Maximum	575 nm-675 nm
Max Absorption/Emission Wavelength (nm)	λabs =485 nm / Em= 620 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 dye stock solution: Centrifuge briefly, pipette and mix evenly. After appropriately aliquoting the probe solution, store it in the dark at -20 °C or a lower temperature;
2. Preparation of dye working solution: Take 1 μL of the AIE Lipid Droplet Yellow Probe stock solution and add it to 1 - 2 mL of cell culture medium or an appropriate buffer (such as PBS) to obtain an AIE Lipid Droplet 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 dye solution for 30 min (preferably placed in a cell incubator). Wash 3 times with PBS. Observe using a confocal fluorescence microscope or a fluorescence microscope. Set the excitation wavelength to 488 nm; collect signals at 550 - 650 nm.

Notes

1. Please centrifuge briefly before use;
2. When using for the first time, prepare the mother solution first, then aliquot it, 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 during operation;
4. This product is only for scientific research use.