Lysosome Red Probe (AIE)

A1456409

Storage at -20°C (12 months).Avoid freeze/thaw cycle. Protect from light.

Introduction:

Lysosome Red Probe (AIE) is a triphenylamine derivative developed based on the AIE principle and has typical AIE characteristics. The product has the ability to cross cell membranes; simply by incubating it with cells, trans-membrane transport can be completed through passive transport.

Product Characteristics:

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

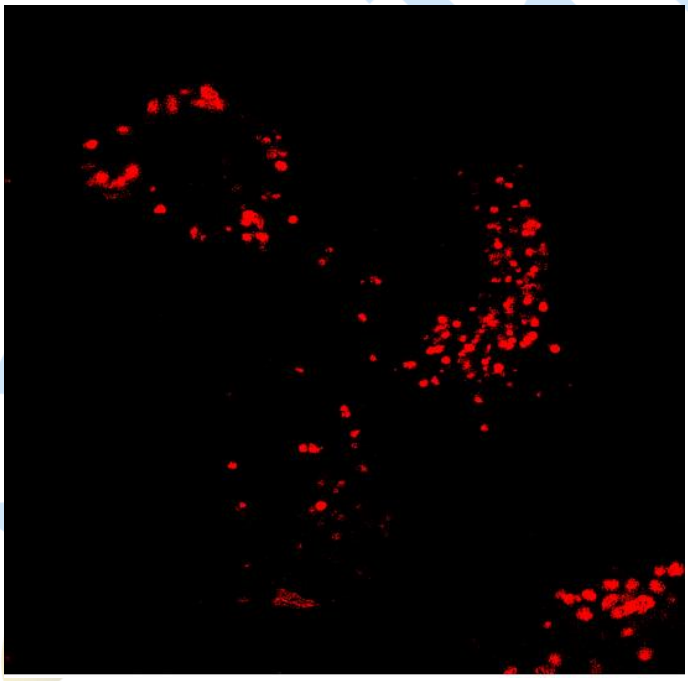

Figure 1. Laser confocal imaging effect diagram of HeLa cells

Different from common dyes, Lysosome Red Probe (AIE) has a large Stokes shift, which can be clearly distinguished from other dyes, reducing the possibility of crosstalk in imaging. Meanwhile, Lysosome Red Probe (AIE) has good biocompatibility and a 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	$C_{40}H_{44}N_2O_5$
Molecular Weight	659 g/mol
Purity	≥98% (HPLC)
Working Concentration	1-20 μM
Full Width at Half Maximum	600 nm-700 nm
Max Absorption/Emission Wavelength (nm)	λabs = 490 nm / Em = 700 nm

Product Advantages:

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

Experimental Methods:

1. Preparation of dye stock solution: After a brief centrifugation, add 400 μL of anhydrous DMSO to a tube of Lysosome Red Probe (AIE). After ultrasonic treatment and pipetting to mix evenly, a 2 mM Lysosome Red Probe (AIE) stock solution is obtained. Appropriately aliquot it and store it protected from light at -20 °C or a lower temperature.
2. Preparation of dye working solution: Take 5 μL of the Lysosome Red Probe (AIE) stock solution and add it to 1-2 mL of cell culture medium or an appropriate buffer (such as PBS) to obtain an Lysosome Red Probe (AIE) working solution with a final concentration of 5-10 μM. The final concentration can be adjusted according to experimental needs.
3. Cell staining: Incubate adherent cells with an appropriate amount of the working dye solution for 15-30 minutes (preferably in a cell incubator). Wash three times with PBS. Observe using a confocal fluorescence microscope or a fluorescence microscope. Set the excitation wavelength to 488 nm and collect signals at 640-750 nm.

Matters needing attention:

1. Before the first use, please centrifuge briefly. After preparing the mother solution, aliquot it and store it at -20 °C to avoid repeated freezing and thawing.
2. The appearance of black precipitates in this product is a normal phenomenon. Please sonicate before each use.
3. For your safety and health, please wear a lab coat and disposable gloves during operation.
4. This product is only for scientific research purposes.