Lyso-Tracker Green

L747762

Store at -20℃ in the dark

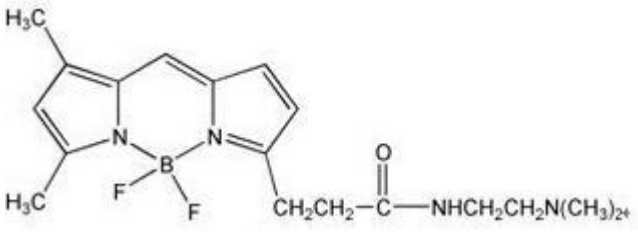
Introduction:

Lyso-Tracker Green is a cell-permeable green fluorescent probe that can be used to stain lysosomes in live cells. Lyso-Tracker Green is a weakly basic fluorescent probe labeled with DND-26 from Molecular Probes. Only the weak base can partially provides protons to maintain the pH at neutral and can be selectively retained in the acidic lysosomes, thus enabling specific fluorescent labeling of lysosomes. Both Neutral Red and Acridine Orange can also fluorescently stain lysosomes, but lacking specificity. Lyso-Tracker Green is suitable for staining lysosomes in live cells, but not lysosomes in fixed cells.

The molecular formula of Lyso-Tracker Green is $C_{18}H_{26}BClF_2N_4O$ with the molecular weight of 398.7. Lyso-Tracker Green has an excitation and emission maximum of 504/511nm.

Lyso-Tracker Green is an eosinophilic fluorescent probe for labeling and tracing acidic organelles in live cells at nanomolar concentrations. Lyso-Tracker Green must be used at very low concentrations (typically ~50nM) to achieve excellent selectivity. The mechanism of retention of these probes, although poorly understood, is likely to be related to the protonation and retention of acidic organelles. The endocytosis kinetic studies of Lyso-Tracker Green probe have shown that it takes a few seconds only for live cells to uptake this probe. However, these lysosomal probes lead to alkalinization of lysosomes, causing an increase in lysosomal pH. The concentration and incubation time of the Lyso-Tracker Green probe should be optimized for different cell types and experimental conditions.

Information:

CAS No.	L747762
Formula	$C_{18}H_{26}BClF_2N_4O$
Molecular Weight	398.6894
Ex/Em(nm)	504nm / 511nm
Appearance	Orange liquid
Structure	

Usage method:

1.Preparation of Lyso-Tracker Green working solution

a) Dilute an appropriate amount of Lyso-Tracker Green (1mM) in cell culture medium or other appropriate solutions (e.g., HBSS with Ca2+ & Mg2+) to a final concentration of 50-75nM. For example, mix 1μl of Lyso-Tracker Green (1mM) with 20ml or 13.33ml of dilution buffer to obtain the Lyso-Tracker Green working solution.

b) Prewarm the Lyso-Tracker Green working solution at 37℃ before use.

Note: The concentration of Lyso-Tracker Green in the working solution can be adjusted appropriately according to the staining results. To minimize the staining background, a lower concentration of Lyso-Tracker Green is preferred as long as an acceptable staining result can be obtained.

2.Fluorescent labelling of lysosome

a) Remove the cell culture medium, add Lyso-Tracker Green working solution pre-incubated at 37℃, and incubate at 37℃ for 5-60 min.

b) Remove the Lyso-Tracker Green working solution and add fresh cell culture medium.

c) Examine cells by fluorescence microscope or confocal microscope. If the staining is too weak, increase the concentration of Lyso-Tracker Green or extend the staining time appropriately within the recommended time period.

Precautions:

1. Lyso-Tracker Green (1mM) will solidify on ice or at lower temperatures such as 4℃ and stick to the bottom, walls or lid of the centrifuge tube. It should be thawed completely in a water bath at 20-25℃ prior to use. For trace amounts of liquid, centrifuge briefly before each use to collect the liquid at the bottom of the tube.
2. Fluorescence intensity decays. Avoid light to minimize the quenching of fluorescence.
3. Lyso-Tracker Green is suitable for staining live cells, but is not suitable for staining cells after fixation. 3% glutaraldehyde can be attempted to fix Lyso-Tracker Green-stained cells.
4. This product is for R&D only. Not for drug, household, or other uses.
5. For your safety and health, please wear a lab coat and disposable gloves during the operation.