ER-Tracker Red

Cat. No.: HY-D1431

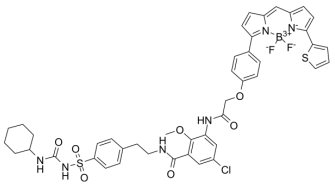
Molecular Formula: $C_{44}H_{42}BClF_2N_6O_7S_2$

Molecular Weight: 915.23

Target: Fluorescent Dye

Pathway: Others

Storage: 4°C, protect from light
* In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 10 mg/mL (10.93 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.0926 mL	5.4631 mL	10.9262 mL
	5 mM	0.2185 mL	1.0926 mL	2.1852 mL
	10 mM	0.1093 mL	0.5463 mL	1.0926 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

ER-Tracker dye is a derivative of BODIPY series dyes coupled with Glibenclamide (HY-15206), highly selective binding to the endoplasmic reticulum, non-toxic to cells at low concentrations, this type of dye is an environmentally sensitive probe, and formaldehyde treatment can still retain part of the fluorescence, with high fluorescence life, good extinction coefficient and other characteristics. Glibenclamide is an atp-dependent K^+ channel blocker (Kir6, KATP) and CFTR Cl-channel blocker that binds in the endoplasmic reticulum. ER-Tracker is not suitable for staining cells after fixation. Ex/Em=587/615 nm[1].

In Vitro

1. Preparation of ER-Tracker working solution
1.1 Preparation of the stock solution
Dissolve 100 ug ER-Tracker in 109 µL DMSO to obtain 1 mM of stock solution.
Note: It is recommended to store the stock solution at -20℃ or -80℃ away from light and avoid repetitive freeze-thaw cycles.
1.2 Preparation of ER-Tracker working solution
Dilute the stock solution in serum-free cell culture medium or PBS to obtain 100 nM-1 µM of working solution.
Note: Please adjust the concentration of ER-Tracker working solution according to the actual situation.
2. Cell staining
2.1 Suspension cells (6-well plate)
a. Centrifuge at 1000 g at 4℃ for 3-5 minutes and then discard the supernatant. Wash twice with PBS, 5 minutes each time.The cell density is 1×10^6/mL.

b. Add 1 mL of working solution, and then incubate at room temperature for 5-30 minutes.
c. Centrifuge at 400 g at 4℃ for 3-4 minutes and then discard the supernatant.
d. Wash twice with PBS, 5 minutes each time.
e. Resuspend cells with serum-free cell culture medium or PBS. Observation by fluorescence microscopy or flow cytometry.
2.2 Adherent cells
a. Culture adherent cells on sterile coverslips.
b. Remove the coverslip from the medium and aspirate excess medium.
c. Add 100 µL of working solution, gently shake it to completely cover the cells,and then incubate at room temperature for 5-30 minutes.
d. Wash twice with medium, 5 minutes each time. Observation by fluorescence microscopy or flow cytometry.
Note: If detection by flow cytometry, cells need to be resuspended before staining.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Merianda TT, et al. A functional equivalent of endoplasmic reticulum and Golgi in axons for secretion of locally synthesized proteins. Mol Cell Neurosci. 2009 Feb;40(2):128-42.

[2]. Adiki Raja Sekhar, et al. A cell-permeant small molecule for the super-resolution imaging of the endoplasmic reticulum in live cells. Org Biomol Chem. 2019 Apr 10;17(15):3732-3736.

[3]. Tanuja T Merianda, et al. A functional equivalent of endoplasmic reticulum and Golgi in axons for secretion of locally synthesized proteins. Mol Cell Neurosci. 2009 Feb;40(2):128-42.

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