BODIPY 493/503 methyl bromide

Cat. No.: HY-D1614

CAS No.: 216434-81-0

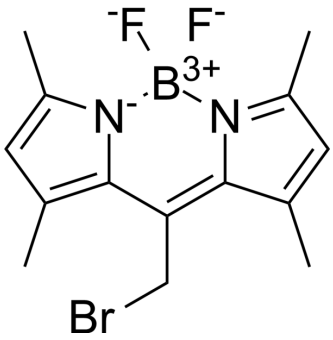
Molecular Formula: $C_{14}H_{16}BBrF_2N_2$

Molecular Weight: 341

Target: Fluorescent Dye

Pathway: Others

Storage: -20°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 (29.33 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.9326 mL	14.6628 mL	29.3255 mL
	5 mM	0.5865 mL	2.9326 mL	5.8651 mL
	10 mM	0.2933 mL	1.4663 mL	2.9326 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
Solubility: 1 mg/mL (2.93 mM); Suspended solution; Need ultrasonic

BIOLOGICAL ACTIVITY

Description

BODIPY493/503 methyl bromide is a BODIPY dye. BODIPY dye is a small molecule dye with strong ultraviolet absorption ability, its fluorescence peak is relatively sharp, and the quantum yield is high. They are relatively insensitive to the polarity and pH of the environment and are relatively stable under different physiological conditions. Due to its structural asymmetry, BODIPY derives a variety of structural products. BODIPY lipid droplet dyes can well pass through the cell membrane into the cell, and localize the polar lipids in the cell to specifically stain the lipid droplets, which can be used for labeling of live cells and fixed cells[1]. Maximum excitation/emission wavelength: 493/503 nm[1].

In Vitro

General Protocol
1. Preparation of BODIPY493/503 methyl bromide working solution
1.1 Preparation of the stock solution
Dissolve 1 mg BODIPY493/503 methyl bromide in 293.3 µL DMSO to obtain 10 mM of stock solution.
Note: It is recommended to store the stock solution at -20°C or -80°C, keep away from light and avoid repetitive freeze-thaw cycles.
1.2 Preparation of BODIPY493/503 methyl bromide working solution

Dilute the stock solution in serum-free cell culture medium or PBS to obtain 1-10 μM of working solution.
Note: Please adjust the concentration of BODIPY493/503 methyl bromide working solution according to the actual situation.
2. Cell staining
2.1 Suspension cells (6-well plate)
a. Centrifuge at 1000 g at 4°C for 3-5 min and then discard the supernatant. Wash twice with PBS, 5 min 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 min.
c.Centrifuge at 400 g at 4°C for 3-4 min and then discard the supernatant.
d. Wash twice with PBS, 5 min 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 min.
d. Wash twice with medium, 5 min each time. Observation by fluorescence microscopy or flow cytometry.

Storage
-20°C, 1 year; Protect from light.
Precautions
1. Please adjust the concentration of BODIPY493/503 methyl bromide working solution according to the actual situation.
2. Experiments suggest a positive control, incubate the control group cells with 30 μM oleic acid for 8 h and then perform subsequent experiments.
3. This product is only for R&D use, not for drug, household, or others.
4. For your safety and health, please wear a lab coat and disposable gloves to operate.
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Cell Death Dis. 2023 Aug 26;14(8):566.
- Int J Biol Macromol. 2024 Mar 17;265(Pt 1):130816.
- Aquaculture. 2024 Jan 30, 579, 740209.

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REFERENCES

[1]. Zaiguo Li, et al. Synthesis and spectral properties of cholesterol- and FTY720-containing boron dipyrromethene dyes. Synthesis and spectral properties of cholesterol- and FTY720-containing boron dipyrromethene dyes. J Org Chem. 2007 Oct 26;72(22):8376-82.

[2]. Bo Qiu, et al. BODIPY 493/503 Staining of Neutral Lipid Droplets for Microscopy and Quantification by Flow Cytometry. Bio Protoc. 2016 Sep 5;6(17):e1912.

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