Acridine Orange 10-Nonyl Bromide

Cat. No.: HY-D0993

CAS No.: 75168-11-5

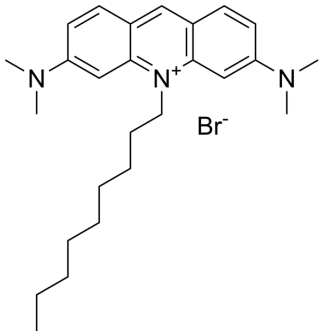
Molecular Formula: $C_{26}H_{38}BrN_3$

Molecular Weight: 472.5

Target: Fluorescent Dye

Pathway: Others

Storage: 4°C, sealed storage, away from moisture and light
* In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 33.33 mg/mL (70.54 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.1164 mL	10.5820 mL	21.1640 mL
	5 mM	0.4233 mL	2.1164 mL	4.2328 mL
	10 mM	0.2116 mL	1.0582 mL	2.1164 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 1.67 mg/mL (3.53 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.67 mg/mL (3.53 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Acridine Orange 10-Nonyl Bromide is a fluorescent probe for cardiolipin (λ_{ex}: 489 nm, λ_{em}: 525 nm).

In Vivo

Acridine Orange 10-Nonyl Bromide is a fluorescent probe for cardiolipin (λ_{ex}: 489 nm, λ_{em}: 525 nm) which can be used to quantify the cardiolipin in isolated mitochondria[1]. when Acridine Orange 10-Nonyl Bromide interacts with cardiolipin, the dye excitation and emission wave lengths shift from 496 and 525 nm to 450 and 640 nm, respectively. Increasing amounts of cardiolipin (0 to 30 μM) and other acidic phospholipids in thin-walled vesicles added to Acridine Orange 10-Nonyl Bromide (45 μM) changes the red fluorescence emission measured at 640 nm according to the liposome composition[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [2]

Yeast cells in log phase are fixed in cold ethanol (70% by vol.) and stored at -20°C. Fixed cells are washed three times with cold 10 mM Tris/HCl pH 7, then mildly sonicated to eliminate aggregates and finally counted. Yeast cells are added to 45 μM Acridine Orange 10-Nonyl Bromide and incubated for 15 min at 20°C. Cells are centrifuged (3000×g, 5 min) then washed twice in 10 mM Tris/HCl pH 7. Red fluorescence of Acridine Orange 10-Nonyl Bromide bound to 10^6 yeast cells is measured at 640 nm and correlated to the calibration curve run with thin-walled vesicles containing known amounts of cardiolipin[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Chem Biol Interact. 2022 Jun 1;110003.

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REFERENCES

[1]. Ratinaud MH, et al. In situ flow cytometric analysis of nonyl acridine orange-stained mitochondria from splenocytes. Cytometry. 1988 May;9(3):206-12.

[2]. Gallet PF, et al. Direct cardiolipin assay in yeast using the red fluorescence emission of 10-N-nonyl acridine orange. Eur J Biochem. 1995 Feb 15;228(1):113-9.

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