Acridine Orange 10-Nonyl Bromide

Cat. No.: HY-D0993
CAS No.: 75168-11-5
Molecular Formula: C₂₆H₃₈BrN₃
Molecular Weight: 472.5
Target: Others
Pathway: Others
Storage: 4°C, protect from light
* In solvent: -80°C, 6 months; -20°C, 1 month (protect from light)

In Vitro

**SOLVENT & SOLUBILITY**

<table>
<thead>
<tr>
<th>Solvent</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>DMSO</td>
<td>2.1164 mL</td>
<td>10.5820 mL</td>
<td>21.1640 mL</td>
</tr>
</tbody>
</table>

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Mass</th>
<th>1 mM</th>
<th>5 mM</th>
<th>10 mM</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mL</td>
<td>2.1164 mL</td>
<td>10.5820 mL</td>
<td>21.1640 mL</td>
</tr>
<tr>
<td>0.4233 mL</td>
<td>2.1164 mL</td>
<td>4.2328 mL</td>
<td></td>
</tr>
<tr>
<td>0.2116 mL</td>
<td>1.0582 mL</td>
<td>2.1164 mL</td>
<td></td>
</tr>
</tbody>
</table>

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

In Vivo

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

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].
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.

REFERENCES
