Product Name: Nisoldipine

Chemical Properties

Product Name: Nisoldipine
Cas No.: 63675-72-9
M.Wt: 388.41
Formula: C20H24N2O6

Chemical Name: 3-O-methyl 5-O-(2-methylpropyl)
2,6-dimethyl-4-(2-nitrophenyl)-1,4-dihydropyridine-3,5-dicarboxylate

Canonical SMILES: CC1=C(C=C(N1)C(=O)OCC(C)C)C2=CC=CC2[N+](=O)[O-])C(=O)OC

Solubility: ≥11.55mg/mL in DMSO
Storage: Store at -20°C
General tips: For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shopping Condition: Evaluation sample solution: ship with blue ice
All other available size: ship with RT, or blue ice upon request

Biological Activity

Targets: Membrane Transporter/Ion Channel
Pathways: Calcium Channel
Description: Nisoldipine is a calcium channel blocker belonging to the dihydropyridines class, specific for L-type Cav1.2 with IC50 of 10 nM.

Reference:
# Protocol

## Cell experiment:

<table>
<thead>
<tr>
<th>Cell lines</th>
<th>Guinea-pig ventricular myocytes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation method</td>
<td>The solubility of this compound in DMSO is &gt; 11.6 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20 °C for several months.</td>
</tr>
</tbody>
</table>

### Reacting conditions

| Applications | In guinea-pig ventricular myocytes, Nisoldipine inhibited rapidly activating delayed-rectifier K+ current (I(Kr)) with an IC50 value of 23 μM, as well as slowly activating delayed-rectifier K+ current (I(Ks)) with an IC50 value of 40 μM. It was estimated that Nisoldipine is approximately 30 times more selective for L-type Ca2+ channels than for delayed-rectifier K+ channels. |

## Animal experiment [3]:

<table>
<thead>
<tr>
<th>Animal models</th>
<th>A dog model of coronary ischemia-reperfusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage form</td>
<td>6.6 μg/kg/min; i.v.</td>
</tr>
<tr>
<td>Applications</td>
<td>Compared with the control group, the Nisoldipine treatment group showed similar hemodynamic measurements. However, mass of necrosis and mass at risk was obviously lower in the Nisoldipine group. In a dog model of coronary ischemia-reperfusion, Nisoldipine reduced the infarct size.</td>
</tr>
</tbody>
</table>

### Other notes

| Other notes | Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal. |

## Reference:


Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.