ONO-7300243

Cat. No.: HY-100882
CAS No.: 638132-34-0
Molecular Formula: C₂₈H₃₁NO₅
Molecular Weight: 461.55
Target: LPL Receptor
Pathway: GPCR/G Protein

Storage:
- Powder: -20°C 3 years, 4°C 2 years
- In solvent: -80°C 6 months, -20°C 1 month

SOLVENT & SOLUBILITY

**In Vitro**

DMSO : 100 mg/mL (216.66 mM; Need ultrasonic)
H₂O : < 0.1 mg/mL (insoluble)

<table>
<thead>
<tr>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.1666 mL</td>
<td>10.8331 mL</td>
<td>21.6661 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.4333 mL</td>
<td>2.1666 mL</td>
<td>4.3332 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2167 mL</td>
<td>1.0833 mL</td>
<td>2.1666 mL</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: ≥ 3 mg/mL (6.50 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 3 mg/mL (6.50 mM); Clear solution

BIOLOGICAL ACTIVITY

**Description**
ONO-7300243 is a novel, potent lysophosphatidic acid receptor 1 (LPA1) antagonist with IC₅₀ of 0.16 μM.

**IC₅₀ & Target**
IC₅₀: 0.19-0.13 μM (LPA1)¹

**In Vitro**
ONO-7300243 shows modest in vitro activity (IC₅₀=0.16 μM). ONO-7300243 exhibits almost identical levels of antagonist activity in vitro¹.

**In Vivo**
ONO-7300243 shows good efficacy in vivo. The oral dosing of 17a at 30 mg/kg leads to reduced intraurethral
pressure in rats. ONO-7300243 shows strong effects in vivo (88% inhibition at 10 mg/kg i.d., 62% inhibition at 3 mg/kg i.d.) compared with compound 12g. The results reveal that ONO-7300243 shows good membrane permeability and good metabolic stability against rat liver microsomes (MS). ONO-7300243 exhibits good selectivity towards LPAl over LPAl2, most likely because low molecular weight and low lipophilicity lead to reduced compound promiscuity and increased selectivity. ONO-7300243 inhibits the LPA-induced IUP increase in a dose dependent manner (ID50=11.6 mg/kg p.o.) up to 1 h after dosing. Significant effects are observed at 10 and 30 mg/kg (p<0.05 vs.vehicle). ONO-7300243 (30 mg/kg, p.o.) leads to a significant decrease in the IUP in conscious rats without LPA stimulation compared with the vehicle without affecting the mean blood pressure (MBP). The results of a rat pharmacokinetic study of ONO-7300243 show that this material had a rapid clearance (CLtot=15.9 mL/min/kg at 3 mg/kg i.v.) and a short half-life (0.3 h)[1].

PROTOCOL

Animal Administration [1]

Rats[1]

The oral administration of ONO-7300243 (30 mg/kg, p.o.) is investigated to determine its effect on rat IUP. ONO-7300243 is studied in an LPA-induced rat intraurethral pressure (IUP) model.

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

REFERENCES