DC260126

Cat. No.: HY-101906
CAS No.: 346692-04-4
Molecular Formula: C₁₆H₁₈FNO₂S
Molecular Weight: 307.38
Target: GPR40
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 (325.33 mM)
* "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Concentration</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>3.2533 mL</td>
<td>16.2665 mL</td>
<td>32.5330 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.6507 mL</td>
<td>3.2533 mL</td>
<td>6.5066 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.3253 mL</td>
<td>1.6267 mL</td>
<td>3.2533 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: ≥ 2.5 mg/mL (8.13 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (8.13 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (8.13 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
DC260126, a small-molecule antagonist of GPR40.

In Vivo
DC260126 is a small-molecule antagonist of GPR40 that protects against pancreatic β-cells dysfunction in db/db mice. After giving different dose of DC260126 to nine-week-old db/db mice for 5 days, the fasting serum insulin (FSI) level is decreased dose-dependently. And both 10 mg/kg and 30 mg/kg body weight can reduce FSI level of db/db
mice significantly[1]. DC260126, a small-molecule antagonist of GPR40, is evaluated the effect of on glucose and lipid metabolism in obese Zucker rats. Rats are treated intraperitoneally with 6 mg/kg of DC260126 for 8 weeks. DC260126 treatment significantly decreases serum insulin levels by about 20% (147.5±10.42 versus 182.36±7.22, p<0.05). DC260126 treatment causes an elevation of body weight gain from 3 to 6 weeks compared with the vehicle-treated group. Compared with the vehicle-treated group, DC260126 treatment induces a significant increase of Akt phosphorylation levels in liver as assessed by western blotting[2].

**PROTOCOL**

**Animal Administration**[1][2]

**Mice**[1]
Male C57BL/KsJ-Lep\(^{db}\) (db/db) are maintained in a 12 h light-dark cycle at a temperature of 23°C with free access to water and regular chow diet. To investigate the dose-dependent effect of DC260126, nine-week-old db/db male mice are divided into four groups (n=6/group). Mice are given vehicle (5% DMSO in PBS) or DC260126 (3, 10, 30 mg/kg) once daily by tail vein injection for 5 days. At day 5, each group of mice are fasted for 6 h and blood samples are collected from orbital venous plexus and centrifuged for serum separation. Then the concentration of serum insulin level is measured by ELISA kit. For long term experiments, six-week-old obese db/db male mice are divided into two groups (n=8/group) and given vehicle (5% DMSO in PBS) or DC260126 (10 mg/kg) once daily by tail vein injection for 24 days, respectively.

**Rats**[2]
Female obese (fa/fa) Zucker rats are maintained in a 12:12 light-dark cycle with free access to water and a high-fat diet containing 15% fat, 1% cholesterol, 0.5% sodium cholate and 15% sucrose, except when fasted before some experiments. Rats at 8 weeks of age are divided into two groups (n=6/group) on the basis of body weight. Rats are injected intraperitoneally once daily with vehicle (propylene glycol) or DC260126 (6 mg/kg) for 8 weeks. Food intake and body weight are monitored periodically. At the end of the experimental period, mice are fasted for 12 h and then blood is collected. Liver, renal, adipose tissues are rapidly excised and weighed. Liver samples are snap frozen in liquid nitrogen and stored at -80°C for western blotting analysis.

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

**REFERENCES**
