Bezafibrate

Cat. No.: HY-B0637
CAS No.: 41859-67-0
Molecular Formula: C₁₉H₂₀ClNO₄
Molecular Weight: 361.82
Target: PPAR
Pathway: Cell Cycle/DNA Damage
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 : ≥ 50 mg/mL (138.19 mM)
* "≥" means soluble, but saturation unknown.

<table>
<thead>
<tr>
<th>Preparing Stock Solutions</th>
<th>Solvent Concentration</th>
<th>Mass (1 mg)</th>
<th>Mass (5 mg)</th>
<th>Mass (10 mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 mM</td>
<td>2.7638 mL</td>
<td>13.8190 mL</td>
<td>27.6381 mL</td>
</tr>
<tr>
<td></td>
<td>5 mM</td>
<td>0.5528 mL</td>
<td>2.7638 mL</td>
<td>5.5276 mL</td>
</tr>
<tr>
<td></td>
<td>10 mM</td>
<td>0.2764 mL</td>
<td>1.3819 mL</td>
<td>2.7638 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 (6.91 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.91 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
Bezafibrate is an agonist of PPAR, with EC₅₀ values of 50 μM, 60 μM, 20 μM for human PPARα, PPARγ and PPARδ, and 90 μM, 55 μM, 110 μM for murine PPARα, PPARγ and PPARδ, respectively; Bezafibrate is used as an hypolipidemic agent.

IC₅₀ & Target
EC₅₀: 90 μM (Murine PPARα), 55 μM (Murine PPARγ), 110 μM (Murine PPARδ), 50 μM (Human PPARα), 60 μM (Human PPARγ), 20 μM (Human PPARδ)

In Vitro
Bezafibrate is an agonist of PPAR, with EC₅₀ of 90 μM, 55 μM, 110 μM for murine PPARα, PPARγ and PPARδ, and 50
μM, 60 μM, 20 μM for human PPARα, PPARγ and PPARδ, respectively[1]. Bezafibrate (> 200 μM) shows significant cytotoxicity against human retinal microvascular endothelial cells (HRMECs) and human retinal pigment epithelial ARPE-19 cells. Bezafibrate (30-100 μM) suppresses tumor necrosis factor (TNF)α induced inflammatory factors and regulates TNFα induced nuclear factor (NF)-κB transactivation in HRMEC. Bezafibrate inhibits VEGF-induced HRMECs migration, and inhibits interleukin (IL)-1β-induced VEGF secretion of ARPE-19 cells[2].

In Vivo
Bezafibrate (0.5%) markedly reduces plasma lipid and glucose levels, and increases islet area in the pancreas in TallyHo mice. Bezafibrate also improves energy expenditure and metabolic flexibility. Moreover, Bezafibrate ameliorates steatosis, modifies lipid composition and increases mitochondrial mass in the liver[3].

PROTOCOL
Cell Assay [2]
Cell viability is assessed using the CCK-8 kit. Human retinal microvascular endothelial cells (HRMECs) or ARPE-19 cells are seeded at 5000 cells/well in medium containing 10% serum in 96-well plates. After a 24-h incubation, the medium is serum-starved with 1% FBS for 6 h, the CCK-8 reagent is added, and the absorbance of the resultant solution is measured at 450 nm by using a microplate reader at three time points, 24, 48, and 72 h after treatment with Bezafibrate (0, 10, 50, 100, 200, 500, and 1000 μM)[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Administration [3]
TallyHo mice are bred in our animal facility. Only male mice are used in the study, and mice receive a standard diet (SD), which is supplemented with 0.5% (w/w) Bezafibrate for the Bezafibrate groups for 8 weeks. Animals are killed by isoflurane overdose, and dissected tissues are prepared as stated below. All data represent samples taken after 8 weeks of Bezafibrate (or SD) treatment unless otherwise stated[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

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REFERENCES


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Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA