GY4137

Cat. No.: HY-107632
CAS No.: 106740-09-4
Molecular Formula: C₁₅H₂₅N₂O₃PS₂
Molecular Weight: 376.47
Target: Others
Pathway: Others
Storage: -20°C, stored under nitrogen
* In solvent: -80°C, 6 months; -20°C, 1 month (stored under nitrogen)

SOLVENT & SOLUBILITY

In Vitro
DMSO : 100 mg/mL (265.63 mM; Need ultrasonic)
H₂O : 19.23 mg/mL (51.08 mM; Need ultrasonic)

Preparing Stock Solutions

<table>
<thead>
<tr>
<th>Solvent</th>
<th>Mass</th>
<th>1 mg</th>
<th>5 mg</th>
<th>10 mg</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 mM</td>
<td>2.6563 mL</td>
<td>13.2813 mL</td>
<td>26.5625 mL</td>
<td></td>
</tr>
<tr>
<td>5 mM</td>
<td>0.5313 mL</td>
<td>2.6563 mL</td>
<td>5.3125 mL</td>
<td></td>
</tr>
<tr>
<td>10 mM</td>
<td>0.2656 mL</td>
<td>1.3281 mL</td>
<td>2.6563 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: PBS
   Solubility: 50 mg/mL (132.81 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (6.64 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.64 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.64 mM); Clear solution

BIOLOGICAL ACTIVITY

Description
GY4137 is a slow releasing H₂S donor with vasodilator and antihypertensive activity. GY4137 also exhibits anti-inflammatory and anticancer activity[1][2][3].

In Vitro
GY4137 (400-800 μM) causes concentration-dependent killing of seven different human cancer cell lines (HeLa, HCT-116, Hep G2, HL-60, MCF-7, MV4-11 and U2OS) but did not affect survival of normal human lung fibroblasts (IMR90, WI-38)[2].

GY4137 (0.1-0.5 mM) decreases LPS-induced production of nitrite (NO₂⁻), PGE₂, TNF-α and IL-6 from human synoviocytes
(HFLS) and articular chondrocytes (HAC), reduces the levels and catalytic activity of inducible nitric oxide synthase (iNOS) and cyclooxygenase-2 (COX-2) and reduced LPS-induced NF-κB activation\[3\].

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

**Cell Viability Assay**\[2\]

<table>
<thead>
<tr>
<th>Cell Line:</th>
<th>HeLa, HCT-116, Hep G2, HL-60, MCF-7, MV4-11 and U2OS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concentration:</td>
<td>400 or 800 µM</td>
</tr>
<tr>
<td>Incubation Time:</td>
<td>5 days</td>
</tr>
<tr>
<td>Result:</td>
<td>Significantly affected cancer cell survivability.</td>
</tr>
</tbody>
</table>

**In Vivo**

GY4137 (100-300 mg/kg; i.p.; daily for 14 days) significantly reduces the tumor volume in both animal models, in a dose-dependent manner\[2\].

In the complete Freund’s adjuvant (CFA)-treated mouse, GYY4137 (50 mg/kg, i.p.) injected 1 hr prior to CFA increased knee joint swelling while an anti-inflammatory effect, as demonstrated by reduced synovial fluid myeloperoxidase (MPO) and N-acetyl-β-D-glucosaminidase (NAG) activity and decreased TNF-α, IL-1β, IL-6 and IL-8 concentration, was apparent when GYY4137 was injected 6 hrs after CFA\[3\].

GY4137 significantly inhibited tumor growth in the subcutaneous HepG2 xenograft model by inhibiting STAT3 activation and its target gene expression\[4\].

GY4137 prevents nitrative stress and α-synuclein nitration in an MPTP mouse model of Parkinson’s disease\[5\].

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

<table>
<thead>
<tr>
<th>Animal Model:</th>
<th>Female, severe combined immunodeficiency (SCID) mice (bearing HL-60 or MV4-11 cells)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dosage:</td>
<td>100, 200 and 300 mg/kg</td>
</tr>
<tr>
<td>Administration:</td>
<td>I.p.; daily for 14 days</td>
</tr>
<tr>
<td>Result:</td>
<td>Reduced tumor volume by 52.5±9.2% and 55.3±5.7% in HL-60 and MV4-11 injected animals.</td>
</tr>
</tbody>
</table>

**CUSTOMER VALIDATION**

- Molecules. 2023 Jun 14, 28(12), 4770.
- Nitric Oxide. 8 October 2022.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

**REFERENCES**