T0070907

Cat. No.: HY-13202
CAS No.: 313516-66-4
Molecular Formula: C₁₂H₈ClN₃O₃
Molecular Weight: 277.66
Target: PPAR; RAD51
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

<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>3.6015 mL</td>
<td>18.0076 mL</td>
<td>36.0153 mL</td>
</tr>
<tr>
<td>5 mM</td>
<td>0.7203 mL</td>
<td>3.6015 mL</td>
<td>7.2031 mL</td>
</tr>
<tr>
<td>10 mM</td>
<td>0.3602 mL</td>
<td>1.8008 mL</td>
<td>3.6015 mL</td>
</tr>
</tbody>
</table>

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description
T0070907 is a potent PPARγ antagonist and a potential RAD51 inhibitor, with apparent Ki value of 1 nM towards PPARγ.

IC₅₀ & Target
PPARγ, Ki: 1 nM; PPARδ, Ki: 1.8 μM; PPARα, Ki: 0.85 μM

In Vitro
T0070907 (50 μM) pre-treatment impairs repair of IR-induced DNA DSBs in both ME-180 and SiHa cells treated with irradiated (4 Gy). T0070907 (0-50 μM) significantly decreases the levels of DNA-PKcs and RAD51 proteins in ME-180 and SiHa cells[1]. T0070907 (50 μM) treatment reduces the levels of α- and β-tubulin protein in a time-dependent manner, decreases the synthesis of DNA, and prevents the radiation-induced alterations in the cell cycle regulatory proteins of ME180 and SiHa cells[2]. T0070907 (10 μM) has cytotoxicity in an adipocyte-specific and PPARγ-independent manner. T0070907 increases oxidative stress in immature adipocytes[3]. T0070907 (1 μM) blocks the induction of adipogenesis by various treatments of the adipogenic cell line 3T3-L1. T0070907 covalently modifies PPAR on cysteine 313 in helix 3 of human PPAR2[4].
To determine the binding affinity of T0070907 to the PPARs, scintillation proximity assay (SPA) is performed with the following modifications. A 90 μL reaction contains SPA buffer (10 mM K₂HPO₄, 10 mM KH₂PO₄, 2 mM EDTA, 50 mM NaCl, 1 mM dithiothreitol, 2 mM CHAPS, 10% (v/v) glycerol, pH 7.1), 50 ng of GST-PPAR (or 150 ng of GST-PPAR), 5 nM ³H-labeled radioligands, and 5 μL of T0070907 in Me₂SO. After incubation for 1 h at room temperature, 10 μL of polylysine-coated SPA beads (at 20 mg/mL in SPA buffer) are added, and the mixture is incubated for 1 h before reading in Packard Topcount. [³H]Rosiglitazone is used for PPAR, and [³H]GW2433 is used for PPAR and PPAR. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES


Caution: Product has not been fully validated for medical applications. For research use only.
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