### Chemical Properties

**Product Name:** T0070907  
**Cas No.:** 313516-66-4  
**M.Wt:** 277.66  
**Formula:** C12H8ClN3O3  
**Chemical Name:** 2-chloro-5-nitro-N-pyridin-4-ylbenzamide  
**Canonical SMILES:**  
\[ C1=CC(=C(C=C1[N+](=O)[O-])C(=O)NC2=CC=NC=C2)Cl \]  
**Solubility:**  
\[ \geq 27.8 \text{ mg/mL in DMSO}, \geq 4.77 \text{ mg/mL in EtOH with ultrasonic and warming}, <2.29 \text{ mg/mL in H2O} \]  
**Storage:** Store at -20°C  
**General tips:** For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.  
**Shopping Condition:** Evaluation sample solution: ship with blue ice  
All other available size: ship with RT, or blue ice upon request

### Biological Activity

**Targets:** Metabolism  
**Pathways:** PPAR  
**Description:**  
T0070907 is a selective antagonist of peroxisome proliferator-activated receptor γ (PPARγ) with IC50 value of 1nM [1]. T0070907 shows high affinity to PPARγ with Ki of 1nM. The Ki values of it to PPARα and PPARδ are 0.85 and 1.8μM, respectively, demonstrating the high selectivity of T0070907. It is found that T0070907 binds PPARγ within the cysteine 313 in helix 3 of human PPARγ2, subsequently blocks PPARγ function. In transient transfection assay, T0070907 inhibits the transactivation of PPARγ in the presence of rosiglitazone (a PPARγ agonist) with IC50 value in the nM range. T0070907 can block the induction of adipogenesis of the adipogenic cell line 3T3-L1. Additionally, T0070907 is
found to suppress the interaction between PPARγ and the coactivator derived peptide, while promoting the recruitment of the NCoR-derived peptide to PPARγ. Furthermore, T0070907 can also promote a significant increase in the recruitment of NCoR to the PPARγ/RXRα heterodimer [1].

Reference:

**Protocol**

**Cell experiment:**

<table>
<thead>
<tr>
<th>Cell lines</th>
<th>HeLa, SiHa, and Me180 cell lines</th>
</tr>
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<tbody>
<tr>
<td>Preparation method</td>
<td>The solubility of this compound in DMSO is &gt;13.9 mg/ml. General tips for obtaining a higher concentration: Please warm the tube at 37°C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.</td>
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**Applications**

Three cervical cancer cell lines (HeLa, SiHa, and Me180) were treated with a PPARγ inhibitor, T0070907, and/or radiation. T0070907 has significantly decreased the tubulin levels in a time-dependent manner in ME180 cells. The decrease in the tubulin levels after T0070907 in ME180 and SiHa cells was associated with significant increase in the cells at the G2/M phase. The changes in the tubulin and G2/M phase were not evident in HeLa cells. T0070907 reduced the protein levels of PPARγ; however, PPARγ silencing had no effect on the α-tubulin level in ME180 cells suggesting the PPARγ-dependent and -independent actions of T0070907.

Reference:

**Caution**

FOR RESEARCH PURPOSES ONLY.
Specific storage and handling information for each product is indicated on the product datasheet. Most ApexBio products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Short-term storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.