# 产品名称：T0070907
# 产品别名：T0070907

## 生物活性：

| | | | |
|---|---|---|---|
| **Description** | T0070907 is a potent PPARγ antagonist with a $K_i$ of 1 nM. | | |
| **$IC_{50}$ & Target** [4] | PPARγ | PPARδ | PPARα |
| | 1 nM (Ki) | 1.8 μM (Ki) | 0.85 μM (Ki) |
| **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 PPAR 2[4]. | | |

**Solvent&Solubility**

***In Vitro:***

**DMSO : 10 mg/mL (36.02 mM; Need ultrasonic)**

| Preparing Stock Solutions | Solvent / Mass / Concentration | 1 mg | 5 mg | 10 mg |
|---|---|---|---|---|
| | 1 mM | 3.6015 mL | 18.0076 mL | 36.0153 mL |
| | 5 mM | 0.7203 mL | 3.6015 mL | 7.2031 mL |
| | 10 mM | 0.3602 mL | 1.8008 mL | 3.6015 mL |

*请根据产品在不同溶剂中的溶解度选择合适的溶剂配制储备液；一旦配成溶液，请分装保存，避免反复冻融造成的产品失效。

储备液的保存方式和期限：-80°C, 6 months; -20°C, 1 month。-80°C 储存时，请在 6 个月内使用，-20°C 储存时，请在 1 个月内使用。

***In Vivo:***

请根据您的实验动物和给药方式选择适当的溶解方案。以下溶解方案都请先按照 **In Vitro** 方式配制澄清的储备液，再依次添加助溶剂：

——为保证实验结果的可靠性，澄清的储备液可以根据储存条件，适当保存；体内实验的工作液，建议您现用现配，当天使用； 以下溶剂前显示的百分比是指该溶剂在您配制终溶液中的体积占比；如在配制过程中出现沉淀、析出现象，可以通过加热和/或超声的方式助溶

1.请依序添加每种溶剂： 10% DMSO→40% PEG300 →5% Tween-80 → 45% saline

Solubility: ≥ 1 mg/mL (3.60 mM); Clear solution

此方案可获得 ≥ 1 mg/mL (3.60 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 10.0 mg/mL 的澄清 DMSO 储备液加到 400 μL PEG300 中，混合均匀；向上述体系中加入 50 μL Tween-80，混合均匀；然后继续加入 450 μL 生理盐水定容至 1 mL

2.请依序添加每种溶剂： 10% DMSO→ 90% (20% SBE-β-CD in saline)

Solubility: ≥ 1 mg/mL (3.60 mM); Clear solution

此方案可获得 ≥ 1 mg/mL (3.60 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 10.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 20% 的 SBE-β-CD 生理

| | |
|---|---|
| | 盐水水溶液中，混合均匀。<br><br>3.请依序添加每种溶剂： 10% DMSO →90% corn oil<br>Solubility: ≥ 1 mg/mL (3.60 mM); Clear solution<br>此方案可获得 ≥ 1 mg/mL (3.60 mM，饱和度未知) 的澄清溶液，此方案不适用于实验周期在半个月以上的实验。<br>以 1 mL 工作液为例，取 100 μL 10.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。 |
| **References** | [1]. An Z, et al. T0070907 inhibits repair of radiation-induced DNA damage by targeting RAD51. Toxicol In Vitro. 2016 Dec;37:1-8<br>[2]. An Z, et al. T0070907, a PPAR γ inhibitor, induced G2/M arrest enhances the effect of radiation in human cervical cancer cells through mitotic catastrophe. Reprod Sci. 2014 Nov;21(11):1352-61.<br>[3]. Kawahara A, et al. Peroxisome proliferator-activated receptor γ (PPARγ)-independent specific cytotoxicity against immature adipocytes induced by PPARγ antagonist T0070907. Biol Pharm Bull. 2013;36(9):1428-34<br>[4]. Lee G, et al. T0070907, a selective ligand for peroxisome proliferator-activated receptor gamma, functions as an antagonist of biochemical and cellular activities. J Biol Chem. 2002 May 31;277(22):19649-57. Epub 2002 Mar 4 |

**实验参考：**

| | |
|---|---|
| **Kinase Assay** | 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 $K_2HPO_4$, 10 mM $KH_2PO_4$, 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 $^3$H-labeled radioligands, and 5 μL of T0070907 in $Me_2SO$. 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. [$^3$H]Rosiglitazone is used for PPAR, and [$^3$H]GW2433 is used for PPAR and PPAR. [4] |
| **References** | [1]. An Z, et al. T0070907 inhibits repair of radiation-induced DNA damage by targeting RAD51. Toxicol In Vitro. 2016 Dec;37:1-8<br>[2]. An Z, et al. T0070907, a PPAR γ inhibitor, induced G2/M arrest enhances the effect of radiation in human cervical cancer cells through mitotic catastrophe. Reprod Sci. 2014 Nov;21(11):1352-61.<br>[3]. Kawahara A, et al. Peroxisome proliferator-activated receptor γ (PPARγ)-independent specific cytotoxicity against immature adipocytes induced by PPARγ antagonist T0070907. Biol Pharm Bull. 2013;36(9):1428-34<br>[4]. Lee G, et al. T0070907, a selective ligand for peroxisome proliferator-activated receptor gamma, functions as an antagonist of biochemical and cellular activities. J Biol Chem. 2002 May 31;277(22):19649-57. Epub 2002 Mar 4 |