产品名称：L-165,041
产品别名：L-165041

生物活性：

Description	L-165041 is a cell permeable PPARδ agonist, with K_is of 6 nM and appr 730 nM for PPARδ and PPARγ, respectively, and induces adipocyte differentiation in NIH-PPARδ cells.	
IC_{50} & Target [1]	PPARδ	PPARγ
	6 nM (Ki)	730 nM (Ki)
In Vitro	L-165041 is a PPARδ agonist, with Kis of 6 nM and appr 730 nM for PPARδ and PPARγ, respectively[1]. L-165041 (1 or 5 μM) inhibits VEGF-induced endothelial cells (ECs) proliferation and migration. L-165041 negatively affects cell cycle progression in VEGF-activated human umbilical vein ECs (HUVECs). L-165041 (10 μM)inhibits PPARδ-independent, VEGF-induced angiogenesis[2]. PPARδ ligand L-165041 inhibits PDGF-induced rVSMC proliferation and migration. With 1 h of L-165041 pretreatment, PDGF-induced cellular migration is inhibited. L-165041 (10 μM) significantly suppresses S phase transition induced by PDGF[4].	
In Vivo	L-165041 (5 mg/kg/day, i.p.) significantly lowers the formation of lipid droplets in mice. L-165041 markedly reduces the level of both the hepatic cholesterol and triglycerides in mice. L-165041 increases mRNA expression levels of PPARδ compared to the vehicle group. Lipoprotein lipase (LPL) expression in L-165041-treated mice is significantly higher than that in the vehicle group[3].	

Solvent&Solubility

In Vitro:

DMSO : 50 mg/mL (**124.24 mM;** Need ultrasonic)

H_2O : < 0.1 mg/mL (insoluble)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.4848 mL	12.4242 mL	24.8484 mL
	5 mM	0.4970 mL	2.4848 mL	4.9697 mL
	10 mM	0.2485 mL	1.2424 mL	2.4848 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: ≥ 2.5 mg/mL (6.21 mM); Clear solution

此方案可获得 ≥ 2.5 mg/mL (6.21 mM，饱和度未知) 的澄清溶液。

以 1 mL 工作液为例，取 100 μL 25.0 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% corn oil Solubility: ≥ 2.5 mg/mL (6.21 mM); Clear solution 此方案可获得 ≥ 2.5 mg/mL (6.21 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。 以 1 mL 工作液为例，取 100 μL 25.0 mg/mL 的澄清 DMSO 储备液加到 900 μL 玉米油中，混合均匀。
References	[1]. Berger J, et al. Novel peroxisome proliferator-activated receptor (PPAR) gamma and PPARdelta ligands produce distinct biological effects. J Biol Chem. 1999 Mar 5;274(10):6718-25. [2]. Park, Jin-Hee., et al. The PPARδ ligand L-165041 inhibits vegf-induced angiogenesis, but the antiangiogenic effect is not related to PPARδ. Journal of Cellular Biochemistry (2012), 113(6), 1947-1954. [3]. Lim, Hyun-Joung., et al. PPARδ ligand L-165041 ameliorates Western diet-induced hepatic lipid accumulation and inflammation in LDLR-/- mice. European Journal of Pharmacology (2009), 622(1-3), 45-51. [4]. Lim, Hyun-Joung., et al. PPARδ agonist L-165041 inhibits rat vascular smooth muscle cell proliferation and migration via inhibition of cell cycle. Atherosclerosis (Amsterdam, Netherlands) (2009), 202(2), 446-454.

实验参考：

Cell Assay	Human umbilical vein ECs (HUVECs) are cultured in EGM-2. Subconfluent HUVECs are made quiescent by serum starvation [EBM-2 containing 0.1% fetal bovine serum (FBS)] for 4 h. The cells are pretreated with the PPARδ ligand L-165041 or GW501516 for 6 h followed by VEGF (10 ng/mL) induction [2].
Animal Administration	LDLR−/− mice are divided into vehicle (0.1 N NaOH) and L-165041 (5 mg/kg/day) group (9 animals in each group). LDLR−/− mice receive either NaOH or L-165041 via daily intraperitoneal injection (i.p.) for 16 weeks with the Western diet. Body weight is measured once a week and the blood samples for a serum parameter analysis are collected using an eye-bleeding method every 4 weeks. At the end of the experiment, LDLR−/− mice are fasted for 24 h before sacrificed and the liver samples are either fixed in formalin or frozen at −70°C for further analysis. All animals are housed in polycarbonate cages in a room with a 12-h light/12-h dark cycle, and maintained at a constant temperature of 22°C[3].
References	[1]. Berger J, et al. Novel peroxisome proliferator-activated receptor (PPAR) gamma and PPARdelta ligands produce distinct biological effects. J Biol Chem. 1999 Mar 5;274(10):6718-25. [2]. Park, Jin-Hee., et al. The PPARδ ligand L-165041 inhibits vegf-induced angiogenesis, but the antiangiogenic effect is not related to PPARδ. Journal of Cellular Biochemistry (2012), 113(6), 1947-1954. [3]. Lim, Hyun-Joung., et al. PPARδ ligand L-165041 ameliorates Western diet-induced hepatic lipid accumulation and inflammation in LDLR-/- mice. European Journal of Pharmacology (2009), 622(1-3), 45-51. [4]. Lim, Hyun-Joung., et al. PPARδ agonist L-165041 inhibits rat vascular smooth muscle cell proliferation and migration via inhibition of cell cycle. Atherosclerosis (Amsterdam, Netherlands) (2009), 202(2), 446-454.