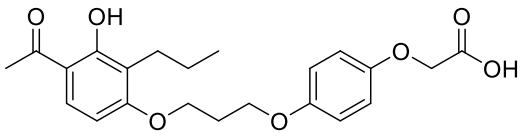
Product data sheet

MedKoo Cat#: 406801 Name: L-165041 CAS: 79558-09-1 Chemical Formula: $C_{22}H_{26}O_7$ Exact Mass: 402.1679 Molecular Weight: 402.443	
Product supplied as:	Powder
Purity (by HPLC):	≥ 98%
Shipping conditions	Ambient temperature
Storage conditions:	Powder: -20°C 3 years; 4°C 2 years.
	In solvent: -80°C 3 months; -20°C 2 weeks.

1. Product description:

L-165041, also known as L-165,041, is a potent and selective agonist of the nuclear receptor PPARβ/δ (Ki = 9 nM, EC50 = ~500 nM for hPPARβ/δ). L-165041 promotes VEGF mRNA stabilization in HPV18-harboring HeLa cells through a receptor-independent mechanism. L-165041 inhibits VEGF-induced angiogenesis, but the antiangiogenic effect is not related to PPARδ. L-165041 inhibits rat vascular smooth muscle cell proliferation and migration via inhibition of cell cycle.

2. CoA, QC data, SDS, and handling instruction

SDS and handling instruction, CoA with copies of QC data (NMR, HPLC and MS analytical spectra) can be downloaded from the product web page under "QC And Documents" section. Note: copies of analytical spectra may not be available if the product is being supplied by MedKoo partners. Whether the product was made by MedKoo or provided by its partners, the quality is 100% guaranteed.

3. Solubility data

Solvent	Max Conc. mg/mL	Max Conc. mM
DMF	50.0	124.24
DMF:PBS (pH 7.2) (1:1)	0.5	1.24
DMSO	40.08	99.59

4. Stock solution preparation table:

Concentration / Solvent Volume / Mass	1 mg	5 mg	10 mg
1 mM	2.48 mL	12.42 mL	24.85 mL
5 mM	0.50 mL	2.48 mL	4.97 mL
10 mM	0.25 mL	1.24 mL	2.48 mL
50 mM	0.05 mL	0.25 mL	0.50 mL

5. Molarity Calculator, Reconstitution Calculator, Dilution Calculator

Please refer the product web page under section of "Calculator"

6. Recommended literature which reported protocols for in vitro and in vivo study

In vitro study

1. Roche E, Lascombe I, Bittard H, Mougin C, Fauconnet S. The PPARβ agonist L-165041 promotes VEGF mRNA stabilization in HPV18-harboring HeLa cells through a receptor-independent mechanism. Cell Signal. 2014 Feb;26(2):433-43. doi: 10.1016/j.cellsig.2013.10.006. Epub 2013 Oct 28. PMID: 24172859.
2. Park JH, Lee KS, Lim HJ, Kim H, Kwak HJ, Park HY. The PPARδ ligand L-165041 inhibits VEGF-induced angiogenesis, but the antiangiogenic effect is not related to PPARδ. J Cell Biochem. 2012 Jun;113(6):1947-54. doi: 10.1002/jcb.24063. PMID: 22234939.

In vivo study

1. Sánchez Viafara JA, de Vasconcelos GL, Maculan R, Alves NG, Ferreira MBD, Sudano MJ, Mingoti GZ, Nunes GB, de Lima RR, Drumond RM, Dos Santos RN, Eberlin MN, Negrão F; Jasmin; Donato MAM, Peixoto CA, Camisão de Souza J. Peroxisome proliferator-activated receptor delta-PPARδ agonist (L-165041) enhances bovine embryo survival and post vitrification viability. Reprod Fertil Dev. 2022 May;34(9):658-668. doi: 10.1071/RD21245. PMID: 35468312.

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2. Lim HJ, Park JH, Lee S, Choi HE, Lee KS, Park HY. PPARdelta ligand L-165041 ameliorates Western diet-induced hepatic lipid accumulation and inflammation in LDLR-/- mice. Eur J Pharmacol. 2009 Nov 10;622(1-3):45-51. doi: 10.1016/j.ejphar.2009.09.002. Epub 2009 Sep 18. PMID: 19766624.

7. Bioactivity

Biological target:

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.

In vitro activity

The PPARβ agonist L-165041 induces VEGF(121), VEGF(165) and VEGF(189) expression in HPV (Human Papillomavirus) positive HeLa cells but not in HPV negative cells.

Reference: Cell Signal. 2014 Feb;26(2):433-43. https://pubmed.ncbi.nlm.nih.gov/24172859/

In vivo activity

The overall hatching rate was higher in L-165041 (66.62±2.83% vs 53.19±2.90%). There was less lipid accumulation in fresh L-165041-embryos. In conclusion, the use of L-165041 is recommended to improve the viability of in vitro -derived bovine embryos.

Reference: Reprod Fertil Dev. 2022 May;34(9):658-668. https://pubmed.ncbi.nlm.nih.gov/35468312/

Note: The information listed here was extracted from literature. MedKoo has not independently retested and confirmed the accuracy of these methods. Customer should use it just for a reference only.