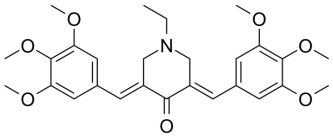
L48H37

Cat. No.:	HY-126154
CAS No.:	343307-76-6
Molecular Formula:	$C_{27}H_{33}NO_7$
Molecular Weight:	483.55
Target:	Toll-like Receptor (TLR)
Pathway:	Immunology/Inflammation
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 50 mg/mL (103.40 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.0680 mL	10.3402 mL	20.6804 mL
	5 mM	0.4136 mL	2.0680 mL	4.1361 mL
	10 mM	0.2068 mL	1.0340 mL	2.0680 mL

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

BIOLOGICAL ACTIVITY

Description

L48H37 is an analog of Curcumin (HY-N0005) with improved chemical stability. L48H37 is a potent and specific myeloid differentiation protein 2 (MD2) inhibitor and inhibits the interaction and signaling transduction of LPS-TLR4/MD2. L48H37 is used for the research of sepsis or lung injury treatment[1].

IC_{50} & Target

TLR4

In Vitro

L48H37 inhibits LPS-induced inflammation, particularly TNF-α and IL-6 production and gene expression in mouse macrophages[1].

L48H37 (0-20 μM; 24 hours) decreases the viability of A549 and H460 cells with IC_{50} values of 5.3 μM and 2.3 μM, respectively, which is more effective compared to curcumin in lung cancer cells. It shows a low cytotoxicity on normal human lung epithelial cells (BEAS-2B) with IC_{50} of 21 μM[2].

L48H37 (1, 2, or 4 μM; 16 hours) dose□dependently inhibited the expression of p□Cdc2 and Cdc2, and increases the expression of p53. It also shows increased levels of cleaved poly (ADP□ribosyl) polymerase (PARP) and reduced levels of anti □apoptotic protein Bcl□2 in H460 and A549 cells[2].

L48H37 (4 μM; 16 hours) rapidly induces intracellular ROS levels dose-dependently as detected by increased DCF levels in H460 and A549 cells[2].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Viability Assay[2]

Cell Line:	A549 and H460 cells; BEAS-2B cells
Concentration:	0.625, 1.25, 2.5, 5, 7.5, 10, and 20 μM
Incubation Time:	24 hours
Result:	Inhibited lung cancer cells growth in a concentration-dependent manner.

Western Blot Analysis[2]

Cell Line:	A549 and H460 cells
Concentration:	0.625, 1.25, 2.5, 5, 7.5, 10, and 20 μM
Incubation Time:	24 hours
Result:	Decreased p-Cdc2, Cdc2, and Bcl-2 expression in 2 lung cancer cells.

In Vivo

L48H37 (intraperitoneal injection; 5 mg or 10 mg/kg; once daily; 11-day) inhibits H460 xenograft tumor growth and exhibits anti-tumor activity in mice[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	5-week-old athymic BALB/cA nu/nu female mice (18-22 g)[2]
Dosage:	5 mg or 10 mg/kg
Administration:	Intraperitoneal injection; once daily; 11-day
Result:	Reduced tumor wet weights as compared to vehicle control. Decreased the levels of p-STAT3, and increased the levels of p-EIF2α and ATF4 in vivo. Exhibited no significant structural changes in mice.

REFERENCES

[1]. Yi Wang, et al. Curcumin Analog L48H37 Prevents Lipopolysaccharide-Induced TLR4 Signaling Pathway Activation and Sepsis via Targeting MD2. J Pharmacol Exp Ther. 2015 Jun;353(3):539-50

[2]. Chen Feng, et al. Curcumin analog L48H37 induces apoptosis through ROS-mediated endoplasmic reticulum stress and STAT3 pathways in human lung cancer cells. Mol Carcinog. 2017 Jul;56(7):1765-1777.

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