ZLN005

Cat. No.: HY-17538

CAS No.: 49671-76-3

Molecular Formula: $C_{17}H_{18}N_2$

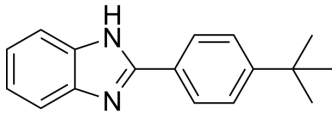
Molecular Weight: 250.34

Target: PGC-1α; Autophagy

Pathway: Metabolic Enzyme/Protease; Autophagy

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : 22 mg/mL (87.88 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	3.9946 mL	19.9728 mL	39.9457 mL
5 mM	0.7989 mL	3.9946 mL	7.9891 mL
10 mM	0.3995 mL	1.9973 mL	3.9946 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: 2.2 mg/mL (8.79 mM); Suspended solution; Need ultrasonic
2. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 1.67 mg/mL (6.67 mM); Suspended solution; Need ultrasonic
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 1.25 mg/mL (4.99 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 1.25 mg/mL (4.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

ZLN005 is a potent activator of peroxisome proliferator-activated receptor-γ coactivator-1α (PGC-1α)[1].

IC_{50} & Target

Peroxisome proliferator-activated receptor-γ coactivator-1α[1]

In Vitro

ZLN005 (2.5-20 μM; 24 hours) activates AMPK in a dose-dependent manner[1].

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

Western Blot Analysis[1]

Cell Line:	L6 myotubes
Concentration:	2.5, 5, 10, 20 μM
Incubation Time:	24 hours
Result:	Dose-dependent activation of AMPK.

In Vivo

ZLN005 (15 mg/kg; p.o.; per day for 4 weeks) decreases random blood glucose and fasting blood glucose levels over 4 weeks compared with lean mice[1].

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

Animal Model:	Eight-week-old db/db mice[1]
Dosage:	15 mg/kg
Administration:	Oral administration; per day for 4 weeks
Result:	Random blood glucose and fasting blood glucose levels decreased significantly over 4 weeks compared with lean mice.

CUSTOMER VALIDATION

- Mol Cell. 2023 Nov 20:S1097-2765(23)00914-0.
- Adv Sci (Weinh). 2024 Mar 30:e2400749.
- J Hazard Mater. 2023 Oct 5;459:132262.
- Metabolism. 2023 May 23;155592.
- J Transl Med. 2023 Jul 20;21(1):486.

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REFERENCES

[1]. Zhang LN, et al. Novel small-molecule PGC-1α transcriptional regulator with beneficial effects on diabetic db/db mice. Diabetes. 2013 Apr;62(4):1297-307.

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