Liensinine

Cat. No.: HY-N0484

CAS No.: 2586-96-1

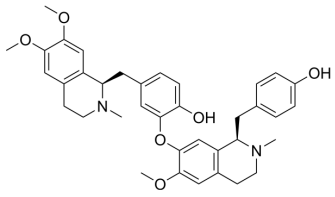
Molecular Formula: $C_{37}H_{42}N_2O_6$

Molecular Weight: 610.74

Target: Autophagy; Mitophagy; Apoptosis

Pathway: Autophagy; Apoptosis

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 (81.87 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.6374 mL	8.1868 mL	16.3736 mL
	5 mM	0.3275 mL	1.6374 mL	3.2747 mL
	10 mM	0.1637 mL	0.8187 mL	1.6374 mL

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

In Vivo

1. Add each solvent one by one: 50% PEG300 >> 50% saline
   Solubility: 20 mg/mL (32.75 mM); Clear solution; Need ultrasonic and warming and heat to 60°C
2. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.08 mg/mL (3.41 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (3.41 mM); Clear solution
4. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (3.41 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Liensinine is an autophagy/mitophagy inhibitor. Liensinine, a major isoquinoline alkaloid, extracted from the seed embryo of Nelumbo nucifera Gaertn, has a wide range of biological activities, including anti-arrhythmias, anti-hypertension, anti-pulmonary fibrosis, relaxation on vascular smooth muscle, etc[1].

In Vivo

Liensinine (oral gavage, 100 or 200 mg/kg, daily, 10 weeks) can effectively treat periodontitis, similar to metronidazole-type drugs, and has a certain dose-dependent[2].

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

Animal Model:	KM mice[2]
Dosage:	100 mg/kg, 200 mg/kg
Administration:	oral gavage, daily, 10 weeks
Result:	Reduced the gingival index and increased the SOD levels, the CAT, GSH-Px levels and decreased the NO, MDA, and ET levels compared to the control group.

Animal Model:	Institute of Cancer Research (ICR) mice (male, 20-22 g)[3]
Dosage:	
Administration:	5 mg/kg by oral administration; 1 mg/kg by intravenous administration
Result:	The pharmacokinetic parameters of Liensinine in mice

Parameters	po (5 mg/kg)	iv (1 mg/kg)
$AUC_{(0-t)}$ (ng/mL*h)	18.8 ± 2.7	211.2 ± 54.9
$AUC_{(0-\infty)}$ (ng/mL*h)	19.1 ± 2.8	227.9 ± 60.1
$MRT_{(0-t)}$(h)	3.2 ± 0.4	2.6 ± 0.5
$MRT_{(0-\infty)}$ (h)	3.4 ± 0.5	3.5 ± 0.9
$t_{1/2z}$ (h)	1.9 ± 0.2	3.8 ± 0.8
$CL_{z/F}$ (L/h/kg)	266.0 ± 41.3	4.7 ± 1.2
$V_{z/F}$ (L/kg)	708.5 ± 79.9	25.9 ± 11.0
C_{max} (ng/mL)	5.3 ± 0.2	169.5 ± 53.5

CUSTOMER VALIDATION

- Int J Biol Sci. 2022 Aug 8;18(13):5168-5184.
- Cell Death Dis. 2023 Sep 30;14(9):645.
- Life Sci. 2023 Apr 1;121653.
- J Biol Chem. 2024 Jul 9:107542.
- Adipocyte. 2022 Dec;11(1):202-212.

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REFERENCES

[1]. Liang Pang, et al. Protective effect of liensinine on periodontitis through its antioxidant effect in mice. Journal of the Korean Society for Applied Biological Chemistry volume 58, pages927-936

[2]. Shuhua Tong, et al. Pharmacokinetics and bioavailability of liensinine in mouse blood by UPLC-MS/MS. Acta Chromatographica,Volume 33: Issue 4,14 Oct 2020.

[3]. Zhou J, et al. A novel autophagy/mitophagy inhibitor liensinine sensitizes breast cancer cells to chemotherapy through DNM1L-mediated mitochondrial fission. Autophagy. 2015;11(8):1259-79.

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