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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

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Loureirin B

Cat. No.: HY-N1504

CAS No.: 119425-90-0

Molecular Formula: $C_{18}H_{20}O_5$

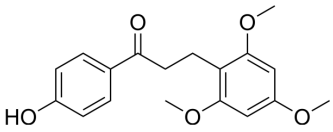
Molecular Weight: 316.35

Target: PAI-1; Potassium Channel; ERK; JNK

Pathway: Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; MAPK/ERK Pathway; Stem Cell/Wnt

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 : ≥ 150 mg/mL (474.16 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	3.1611 mL	15.8053 mL	31.6106 mL
	5 mM	0.6322 mL	3.1611 mL	6.3221 mL
	10 mM	0.3161 mL	1.5805 mL	3.1611 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: ≥ 2.5 mg/mL (7.90 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (7.90 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (7.90 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Loureirin B, a flavonoid extracted from Dracaena cochinchinensis, is an inhibitor of plasminogen activator inhibitor-1 (PAI-1), with an IC_{50} of 26.10 μM; Loureirin B also inhibits K_{ATP}, the phosphorylation of ERK and JNK, and has anti-diabetic activity.

IC_{50} & Target				
	PAI-1 26.1 μM (IC_{50})	K_{ATP}	ERK	JNK

In Vitro	Loureirin B enhances the relative mRNA level of Pdx-1 and MafA. Loureirin B (1, 0.1, and 0.01 μM) increases insulin secretion in Ins-1 cells. Loureirin B (0.01 μM) almost causes no toxicity on cells. Loureirin B improves the level of expressions of MafA and Pdx-1 and ATP level. Loureirin B inhibits the KATP current but increases the $[Ca^{2+}]i$ level in Ins-1 cells[1]. Loureirin B inhibits the expression of Col1 and FN, as well as the TGF-β1-mediated up regulation of p-JNK. Loureirin B also inhibits the up regulation of p-ERK that is induced by TGF-β1. Moreover, Loureirin B inhibits the contraction of TGF-β1-stimulated fibroblasts through the down regulation of p-ERK and p-JNK. However, Loureirin B does not suppress the up regulation of p-p38 that is induced by TGF-β1[2]. Loureirin B downregulates both mRNA and protein levels of type I collagen, type III collagen and α-smooth muscle actin in a dose dependent manner in HS fibroblasts. Loureirin B also suppresses fibroblast proliferative activity and redistributes cell cycle, but does not affect cell apoptosis[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Loureirin B significantly improves the arrangement and deposition of collagen fibres, decreases protein levels of ColI, ColIII and α-SMA and suppresses myofibroblast differentiation and scar proliferative activity, in a rabbit ear scar model. Loureirin B effectively inhibits TGF-β1-induced upregulation of ColI, ColIII and α-SMA levels, myofibroblast differentiation and the activation of Smad2 and Smad3, in NS fibroblasts[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

PROTOCOL

Cell Assay [1]	Ins-1 cells are seeded onto 96-well plates and cultured for 48 h to approximately 80-90% confluence. Then, the cells are starved in a 2% FBS/DMEM for 12 h. Control group is cultured in medium without loureirin B, while the positive control group is received fresh medium with glimepiride. After the treatment of loureirin B and glimepiride for 4 and 8 h, the cell viability is measured by Cell Counting Kit-8 (CCK-8). MCE has not independently confirmed the accuracy of these methods. They are for reference only.
Animal Administration [3]	For short, 10 adult New Zealand white male rabbits (2.0-2.5 kg b.w./each) are acclimated and housed under the standard 12-h light: 12-h dark cycle with free access of water and SPF basal diet. Rabbit is first anaesthetized with 1% pentobarbital (1.5 mg/kg b.w.), and then, a dermal punch biopsy (10×4 mm) is created down to bare cartilage on the ventral surface of each ear to outline a full-thickness wound. Four punch wounds are made on each ear of the eight rabbits. A dissecting microscope is used to ensure the complete removal of epidermis, dermis and perichondrium in each wound. Forty-eight hours after surgery, wounded rabbits are randomLy divided into two groups with each being subcutaneously injected with DMSO solution (0.125% in PBS, 0.25 mL/kg b.w.) on the left ear or loureirin B solution (25 μg/mL in PBS, 0.25 mL/kg b.w.) on the right ear once every other day for total six times. Two rabbits are used for pilot experiment, four rabbits are sacrificed 14 days after injury (n = 4), and the rest four are sacrificed 28 days after injury (n=4). Two of the four scar tissues on the same ear are processed for Western blot, and the other two are used for Masson staining. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Sha Y, et al. Loureirin B promotes insulin secretion through inhibition of KATP channel and influx of intracellular calcium. J Cell Biochem. 2017 Aug 17.

[2]. He T, et al. Loureirin B Inhibits Hypertrophic Scar Formation via Inhibition of the TGF-β1-ERK/JNK Pathway. Cell Physiol Biochem. 2015;37(2):666-76.

[3]. Bai X, et al. Loureirin B inhibits fibroblast proliferation and extracellular matrix deposition in hypertrophic scar via TGF-β/Smad pathway. Exp Dermatol. 2015 May;24(5):355-60.

[4]. Yu Jiang, et al. Bioactivity-Guided Fractionation of the Traditional Chinese Medicine Resina Draconis Reveals Loureirin B as a PAI-1 Inhibitor. Evidence-Based Complementary and Alternative Medicine

Caution: Product has not been fully validated for medical applications. For research use only.

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