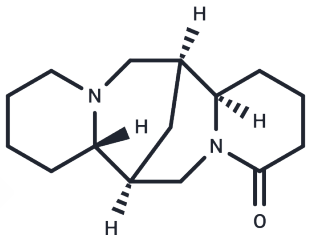
Data Sheet (Cat.No.TMA0805)

TargetMol

Lupanine

Chemical Properties



CAS No. : 550-90-3

Formula: C15H24N2O

Molecular Weight: 248.36

Storage: Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	Lupanine ((+)-Lupanine), a naturally occurring quinolizidine alkaloid, potently affinity and activates nicotinic acetylcholine receptor (nAChR) (Ki=500 nM), and shows significant neuroprotection against soluble amyloid β-oligomers (SO-Aβ) toxicity in cellular models in association with the anti-apoptotic PI3K/ Akt/Bcl-2 signaling pathway with anti-Alzheimer's disease potential. Improves glucose homeostasis by affecting KATP channels and enhancing insulin secretion with therapeutic potential for type 2 diabetes.
Targets(IC50)	Beta Amyloid,AChR,Potassium Channel
In vitro	Lupanine (0-100 μM) treats SH-SY5Y cells with EC50 and DC50 values of 10.7 μM and 28.2 μM, respectively. [2]
In vivo	**Methods**: Lupanine (20 mg/kg, orally) was administered to non-diabetic and diabetic rats, and an oral glucose tolerance test was performed 30 minutes later. **Results**: Lupanine reduced blood glucose concentrations and improved glycemic control in an in vivo diabetic rat model. [3]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	4.0264 mL	20.1321 mL	40.2641 mL
5 mM	0.8053 mL	4.0264 mL	8.0528 mL
10 mM	0.4026 mL	2.0132 mL	4.0264 mL
50 mM	0.0805 mL	0.4026 mL	0.8053 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

K Yovo, et al. Comparative pharmacological study of sparteine and its ketonic derivative lupanine from seeds of Lupinus albus. Planta Med. 1984 Oct;50(5):420-4.
Green BT, et al. Anagyrine desensitization of peripheral nicotinic acetylcholine receptors. A potential biomarker of quinolizidine alkaloid teratogenesis in cattle. Res Vet Sci. 2017 Dec;115:195-200.
Wiedemann M, et al. Lupanine Improves Glucose Homeostasis by Influencing KATP Channels and Insulin Gene Expression. Molecules. 2015 Oct 20;20(10):19085-100.

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