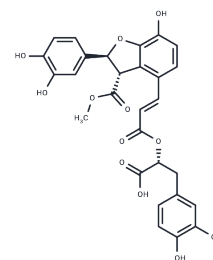


Monomethyl lithospermate

Chemical Properties

CAS No. :	933054-33-2
Formula:	C ₂₈ H ₂₄ O ₁₂
Molecular Weight:	552.48
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



Biological Description

Description	Monomethyl lithospermate (Lithospermic acid monomethyl ester) has potential antiviral activity, alleviating ischemic stroke injury in vivo in middle cerebral artery occlusion mice by activating PI3K/Akt signaling and protecting oxygen-glucose deprivation/reoxygenation-induced SHSY-3Y cells in vitro. Monomethyl lithospermate could improve the viability of SHSY-5Y cells, inhibit mitochondrial membrane potential (MMOP) collapse, and inhibit cell apoptosis. Monomethyl lithospermate also reduced the level of oxidative stress in the brain tissue of middle artery occlusion (MCAO) rats and improved nerve damage in ischemic stroke (IS) rats.
Targets(IC50)	Akt,PI3K
In vitro	Monomethyl lithospermate (5, 10 and 20 μM; 12 h) increases cell viability of SHSY-5Y cells treated with oxygen-glucose deprivation and reperfusion (OGD/R).[1] Monomethyl lithospermate (20 μM; 12 h) reduces cell damage, mitochondrial membrane potential loss, and apoptosis in SHSY-5Y cells after hypoxia, glucose deprivation/reoxygenation.[1] Monomethyl lithospermate (5, 10 and 20 μM; 12 h) reduces ROS and intracellular oxidative stress in SHSY-5Y cells.[1] Monomethyl lithospermate (20 μM; 12 h) activates PI3K/AKT in SHSY-5Y cells.[1]
In vivo	Monomethyl lithospermate (72.4 μM/kg; oral; once daily for 14 days) improves neurological function, reduces cerebral infarct size, oxidative stress levels, and neuronal apoptosis in rats with ischemia-reperfusion (IR) 24 h after middle artery occlusion (MCAO) by activating PI3K/AKT.[1]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.810 mL	9.0501 mL	18.1002 mL
5 mM	0.362 mL	1.810 mL	3.620 mL
10 mM	0.181 mL	0.905 mL	1.810 mL
50 mM	0.0362 mL	0.181 mL	0.362 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

Yang F, et al. Monomethyl lithospermate alleviates ischemic stroke injury in middle cerebral artery occlusion mice in vivo and protects oxygen glucose deprivation/reoxygenation induced SHSY-5Y cells in vitro via activation of PI3K/Akt signaling. *Front Pharmacol.* 2022 Oct 13;13:1024439.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

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