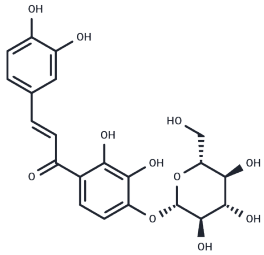
Data Sheet (Cat.No.TN1911)

TargetMol

Marein

Chemical Properties



CAS No. : 535-96-6

Formula: C21H22O11

Molecular Weight: 450.39

Storage: 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	Marein shows neuroprotective effect on PC12 cell damage induced by methylglyoxal, which is due to a reduction of damage to mitochondria function and activation of the AMPK signal pathway, it may be a potent compound for preventing/counteracting diabetic encephalopathy.
Targets(IC50)	Akt,HDAC,AMPK,transporter
In vitro	To clarify whether Marein, a major compound from the hypoglycemic plant Coreopsis tinctoria, prevents PC12 cell damage induced by MG, we cultured PC12 cells in the presence of MG and Marein. Marein attenuated MG-induced changes in the mitochondrial membrane potential (ΔΨm), mitochondrial permeability transition pores (mPTPs), intracellular Ca2+ levels, the production of reactive oxygen species (ROS), glutathione (GSH)/glutathione disulfide (GSSG) and adenosine triphosphate (ATP), and the increase in the percentage of apoptotic cells. Marein also increased glyoxalase I (Glo1) activity, phospho-AMPKα± (Thr172) and Bcl-2 expression and diminished the activation of Bax, caspase-3 and inhibitor of caspase-activated deoxyribonuclease (ICAD). Importantly, pretreatment of cells with Marein diminished the compound C-induced inactivation of p-AMPK. Molecular docking simulation showed that Marein interacted with the γ subunit of AMPK[1]

Solubility Information

Solubility	DMSO: 60 mg/mL (133.22 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.44 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2203 mL	11.1015 mL	22.203 mL
5 mM	0.4441 mL	2.2203 mL	4.4406 mL
10 mM	0.222 mL	1.1101 mL	2.2203 mL
50 mM	0.0444 mL	0.222 mL	0.4441 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

Marein protects against methylglyoxal-induced apoptosis by activating the AMPK pathway in PC12 cells.Free Radic Res. 2016;50(11):1173-1187.