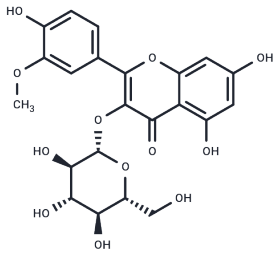
Data Sheet (Cat.No.T5S1988)

TargetMol

Isorhamnetin-3-O-glucoside

Chemical Properties



CAS No. : 5041-82-7

Formula: C22H22O12

Molecular Weight: 478.40

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	Isorhamnetin-3-O-glucoside (Isorhamnetin-3-O-beta-D-Glucoside) inhibits the activity of alpha-glucosidase from rat intestine; it exhibits a potent rat lens aldose reductase (RLAR) inhibition in vitro, its IC(50) being 1.4 microM and has inhibitory effects of sorbitol accumulation, suggests that it is a leading compound for further study as a new drug for the prevention and/or treatment of diabetes and its complications.
Targets(IC50)	ERK,Others,Akt,Lipase,PERK,PI3K
In vitro	The inhibitory effects of compounds from Salicornia herbacea (Chenopodiaceae) on rat lens aldose reductase (RLAR) and sorbitol accumulation in streptozotocin-induced diabetic rat tissues were investigated. METHODS AND RESULTS:The various fractions from the MeOH extract of S. herbacea were tested for their effects on RLAR in vitro. Among them, the EtOAc fraction was found to exhibit a potent RLAR inhibition (IC(50)=0. 75 microg/ml), from which an active principle as a potent AR inhibitor was isolated and its chemical structure was elucidated as Isorhamnetin-3-O-beta-D-Glucoside (1) by spectral analysis. Compound 1 exhibited a potent RLAR inhibition in vitro, its IC(50) being 1.4 microM. Compound 1, when administered orally at 25 mg/kg in streptozotocin (STZ)-induced diabetic rats, caused not only a significant inhibition of serum glucose concentration but also sorbitol accumulation in the lenses, red blood cells (RBC), and sciatic nerves. CONCLUSIONS:These results indicate that compound 1 from S. herbacea is a leading compound for further study as a new drug for the prevention and/or treatment of diabetes and its complications.

Solubility Information

Solubility	DMSO: 250.00 mg/mL (522.58 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: 5.00 mg/mL (10.45 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	2.0903 mL	10.4515 mL	20.903 mL
5 mM	0.4181 mL	2.0903 mL	4.1806 mL
10 mM	0.209 mL	1.0452 mL	2.0903 mL
50 mM	0.0418 mL	0.209 mL	0.4181 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

Inhibitory effects of isorhamnetin-3-O-beta-D-glucoside from Salicornia herbacea on rat lens aldose reductase and sorbitol accumulation in streptozotocin-induced diabetic rat tissues. Biol Pharm Bull. 2005 May;28(5):916-8.
A review of chemistry and biological activities of the genus Aerva--a desert plant. Acta Pol Pharm. 2012 Mar-Apr; 69(2):171-7.
Antioxidant constituents in the dayflower (Commelina communis L.) and their alpha-glucosidase-inhibitory activity. J Nat Med. 2008 Jul;62(3):349-53.