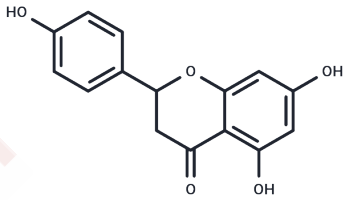
Data Sheet (Cat.No.TMS2171)

TargetMol

(±)-Naringenin

Chemical Properties



CAS No. : 67604-48-2

Formula: C15H12O5

Molecular Weight: 272.25

Appearance: no data available

Storage: Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	(±)-Naringenin (Naringenine) is a natural product. It displays vasorelaxant effect on endothelium-denuded vessels via the activation of BKCa channels in myocytes.
Targets(IC50)	Potassium Channel
In vivo	(+/-)-Naringenin induced concentration-dependent relaxation in endothelium-denuded rat aortic rings pre-contracted with either 20 mM KCl or noradrenaline (pIC(50) values of 4.74 and 4.68, respectively).?Tetraethylammonium, iberiotoxin, 4-aminopyridine and 60 mM KCl antagonised (+/-)-naringenin-induced vasorelaxation, while glibenclamide did not produce any significant antagonism.?Naringin [(+/-)-naringenin 7-beta-neohesperidoside] caused a concentration-dependent relaxation of rings pre-contracted with 20 mM KCl, although its potency and efficacy were significantly lower than those of (+/-)-naringenin.?In rat tail artery myocytes, (+/-)-naringenin increased large conductance Ca(2+)-activated K(+) (BK(Ca)) currents in a concentration-dependent manner;?this stimulation was iberiotoxin-sensitive and fully reversible upon drug wash-out.?(+/-)-Naringenin accelerated the activation kinetics of BK(Ca) current, shifted, by 22 mV, the voltage dependence of the activation curve to more negative potentials, and decreased the slope of activation.?(+/-)-Naringenin-induced stimulation of BK(Ca) current was insensitive either to changes in the intracellular Ca(2+) concentration or to the presence, in the pipette solution, of the fast Ca(2+) chelator BAPTA.?However, such stimulation was diminished when the K(+) gradient across the membrane was reduced.
Cell Research	Naringenin is dissolved in DMSO and diluted in cell culture medium. The cells are rinsed with PBS and grown in a medium containing various concentrations of naringenin (50, 100, 150, 200, 250, 300 μM). The solvent DMSO treated cells are served as control. After 24 hrs of treatment, the medium is removed and replaced by another medium containing MTT. Cell viability is measured using the MTT assay[1].

Solubility Information

Solubility	H2O: < 0.1 mg/mL (insoluble), DMSO: 60 mg/mL (220.39 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	3.6731 mL	18.3655 mL	36.7309 mL
5 mM	0.7346 mL	3.6731 mL	7.3462 mL
10 mM	0.3673 mL	1.8365 mL	3.6731 mL
50 mM	0.0735 mL	0.3673 mL	0.7346 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.

Reference

Saponara S, et al. (+/-)-Naringenin as large conductance Ca(2+)-activated K+ (BKCa) channel opener in vascular smooth muscle cells. Br J Pharmacol. 2006 Dec;149(8):1013-21.
Liang Y, Xu Z, Wu X, et al. Inhibition of hyperpolarization-activated cyclic nucleotide-gated channels with natural flavonoid quercetin. Biochemical and Biophysical Research Communications. 2020
Liang Y, Xu Z, Wu X, et al. Inhibition of hyperpolarization-activated cyclic nucleotide-gated channels with natural flavonoid quercetin[J]. Biochemical and Biophysical Research Communications. 2020