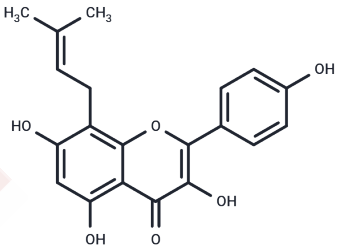
Data Sheet (Cat.No.TN1347)

TargetMol

8-Prenylkaempferol

Chemical Properties



CAS No. : 28610-31-3

Formula: C20H18O6

Molecular Weight: 354.35

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	8-Prenylkaempferol is an effective agent for attenuating pro-inflammatory NO induction, it may be an anti-inflammatory agent for suppressing influenza A virus-induced RANTES production acts by blocking PI3K-mediated transcriptional activation of NF-κB and IRF-3 and in part by interfering with IκB degradation which subsequently decreases NF-κB translocation.
Targets(IC50)	NF-κB,p38 MAPK,PI3K,Wnt/beta-catenin
In vitro	MC3T3-E1 cells were exposed to 8-Prenylkaempferol and the cytotoxicity was assayed. Osteoblast differentiation and maturation were evaluated by analyzing alkaline phosphatase (ALP) activity and cell mineralization, respectively. RT-PCR and Western blot were executed to determine the effects of 8-Prenylkaempferol on osteoblast differentiation-related gene expression and signaling pathway. 8-Prenylkaempferol significantly promoted ALP activity, up-regulated mRNA expressions of osteocalcin, osteopontin, and type I collagen, and induced bone nodules formation. Induction of differentiation by 8-Prenylkaempferol was associated with increased bone morphogenetic protein (BMP)-2 expression, and sequentially up-regulated the phosphorylations of Smad1/5/8 and p38, and increased the nuclear translocation of runt-related transcription factor 2 (Runx2). Addition of BMP-2 antagonist noggin blocked 8-Prenylkaempferol and recombinant mouse BMP-2-induced ALP activity, reconfirming that BMP-2 production is required in 8-Prenylkaempferol-mediated osteoblast differentiation. Noggin also abrogated 8-Prenylkaempferol evoked phosphorylations of Smad1/5/8 and p38, suggesting that BMP-2 signaling is required for p38 activation in 8-Prenylkaempferol-treated cells. Application of p38 inhibitor SB203580 repressed not only 8-Prenylkaempferol-mediated activation of ALP, but also the nuclear translocation of Runx2 and bone nodules formation[1]

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.8221 mL	14.1103 mL	28.2207 mL
5 mM	0.5644 mL	2.8221 mL	5.6441 mL
10 mM	0.2822 mL	1.411 mL	2.8221 mL
50 mM	0.0564 mL	0.2822 mL	0.5644 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

8-Prenylkaempferol accelerates osteoblast maturation through bone morphogenetic protein-2/p38 pathway to activate Runx2 transcription.Life Sci. 2011 Feb 14;88(7-8):335-42.