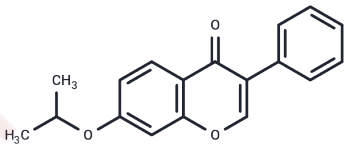
Data Sheet (Cat.No.T0309)

TargetMol

Ipriflavone

Chemical Properties



CAS No. :	35212-22-7
Formula:	C18H16O3
Molecular Weight:	280.32
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	Ipriflavone (Osteofix) (Osteofix) is a feed additive and a catabolic agent. It is used to inhibit bone resorption.
Targets(IC50)	Others,Advanced Glycation End Products,Cytochromes P450
In vitro	Ipriflavone significantly inhibits the growth of MDA-231 xenograft tumors; treated mice exhibited a reduction in tumor volume by 25% and 45% and a decrease in weight by 47% and 63% compared to the control group, respectively, along with extended survival times of the tumor-bearing mice. Additionally, oral administration of 12 mg of Ipriflavone markedly suppressed the development of osteolytic metastases in bone metastatic cancer, impeded the progression of osteolytic lesions, and reduced the number of osteoclasts adjacent to cancer cells.
In vivo	Ipriflavone modulates the differentiation and biosynthesis of human bone marrow stromal osteoprogenitor cells (BMCs) by enhancing the expression of certain key matrix proteins and promoting mineralization. In cultured murine undifferentiated osteoblasts, 10 mM Ipriflavone significantly inhibits bone resorption augmented by glycation end products. At a 50 mM dose, Ipriflavone does not induce apoptosis in MDA-231 cells. Additionally, Ipriflavone exhibits a dose-dependent inhibition of MDA-231 cell proliferation and DNA synthesis and impedes ligand-induced phosphorylation of Tyr845 in the EGFR.
Cell Research	Cells are exposed to various concentrations of Ipriflavone for 24, 48, 72 and 96 hours. Cells are treated with trypan blue to estimate the number of viable cells. For thymidine incorporation analysis, [3H]Thymidine (1 μCi) is added, and cells are harvested onto glass fiber filters 4 hours later. Radioactivity is determined by scintillation counting.(Only for Reference)

Solubility Information

Solubility	Ethanol: 2 mg/mL (7.13 mM),Sonication is recommended. DMSO: 60.2 mg/mL (214.75 mM),Sonication is recommended. H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

In vivo Formulation	10% DMSO+90% Corn Oil: 2.5 mg/mL (8.92 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	3.5674 mL	17.8368 mL	35.6735 mL
5 mM	0.7135 mL	3.5674 mL	7.1347 mL
10 mM	0.3567 mL	1.7837 mL	3.5674 mL
50 mM	0.0713 mL	0.3567 mL	0.7135 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

Cheng SL, et al. Calcif Tissue Int, 1994, 55(5), 356-362.
Han Y, Wang X, Ma D, et al. Ipriflavone promotes proliferation and osteogenic differentiation of periodontal ligament cells by activating GPR30/PI3K/AKT signaling pathway. Drug Design Development and Therapy. 2018, 12: 137
Miyata T, et al. J Am Soc Nephrol, 1997, 8(2), 260-270.
Arjmandi BH, et al. Calcif Tissue Int, 2000, 67(3), 225-229.
Iwasaki T, et al. Int J Cancer, 2002, 100(4), 381-387.
Han, Yuanyuan, et al. Ipriflavone promotes proliferation and osteogenic differentiation of periodontal ligament cells by activating GPR30/PI3K/AKT signaling pathway. Drug design, development and therapy. 2018 Jan 11;12: 137-148.