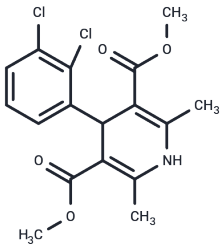
Data Sheet (Cat.No.T0145)

TargetMol

Felodipine

Chemical Properties



CAS No. : 72509-76-3

Formula: C18H19Cl2NO4

Molecular Weight: 384.25

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	Felodipine (CGH-869) is a longlasting 1, 4-dihydropyridine calcium channel repressor.
Targets(IC50)	Calcium Channel,Autophagy
In vitro	Felodipine acts on the aortic wall by inhibiting NF-κB activation and effectively reduces serum insulin levels within macrophages, as well as intracellular adhesion molecule-1 (ICAM-1) and vascular cell adhesion molecule-1 (VCAM-1), thereby significantly lowering systolic blood pressure and modulating vascular inflammatory responses. Oral administration of Felodipine in rats with 5/6 nephrectomy markedly decreases the mean arterial blood pressure.
In vivo	In primary human VSMCs and lung fibroblasts, Felodipine significantly induced transcription and secretion of IL-6 (ED50: 5.8 nM) and IL-8 (ED50: 5.3 nM), with no effect observed from the administration of either propranolol or fenbufen on the expression of these IL genes. In guinea pig ileum longitudinal smooth muscle, Felodipine inhibited carbachol-regulated Ca2+-dependent contraction (IC50: 1.45 nM). At a concentration of 0.1 μM in rat endothelial cells, Felodipine increased NOx production and the activity of Ca2+-dependent NOS and eNOS proteins. At 10 μM, it suppressed human SMC proliferation by inhibiting PDGF-BB-induced Elk-1 activation and reducing the nuclear translocation of p42/44 mitogen-activated protein kinase. Felodipine moderately inhibited Cav3.2 T-type Ca2+ channels (IC50: 6.8 μM). In porcine coronary artery segments contracted with KCl, Felodipine significantly induced relaxation (IC50: 0.15 nM), suggesting it is 50 times more potent than nifedipine (IC50: ~8 nM) and 430 times more potent than verapamil (IC50: ~65 nM) due to its Ca2+ channel blocking action.

Solubility Information

Solubility	DMSO: 250 mg/mL (650.62 mM),Sonication is recommended. Ethanol: 38.4 mg/mL (99.93 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: < 10 mg/mL (26.02 mM),Lower concentrations may be soluble, but exact solubility limit is unknown. 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 10 mg/mL (26.02 mM),Suspension. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one.*

In vivo Formulation	*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	2.6025 mL	13.0124 mL	26.0247 mL
5 mM	0.5205 mL	2.6025 mL	5.2049 mL
10 mM	0.2602 mL	1.3012 mL	2.6025 mL
50 mM	0.052 mL	0.2602 mL	0.5205 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

Johnson JD, et al. J Pharmacol Exp Ther, 1983, 226(2), 330-334.
Wang B, Pei J, Zhang H, et al.Dihydropyridine-derived calcium channel blocker as a promising anti-hantavirus entry inhibitor.Interventions for emerging infectious diseases.2023, 16648714.
Rödler S, et al. J Mol Cell Cardiol, 1995, 27(10), 2295-2302.
Yiu S, et al. J Med Chem, 1996, 39(23), 4576-4582.
Ding Y, et al. Hypertension, 1998, 32(4), 718-723.
Yang Z, et al. Cardiovasc Res, 2002, 53(1), 227-231.