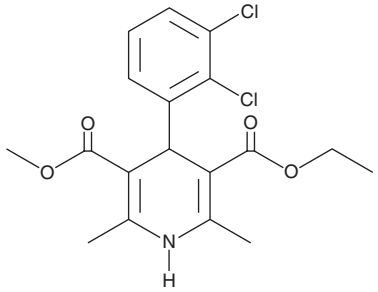
PRODUCT INFORMATION

Felodipine

Item No. 17535

CAS Registry No.:	72509-76-3
Formal Name:	4-(2,3-dichlorophenyl)-1,4-dihydro-2,6-dimethyl-3,5-pyridinedicarboxylic acid, 3-ethyl 5-methyl ester
Synonym:	H 154/82
MF:	$C_{18}H_{19}Cl_2NO_4$
FW:	384.3
Purity:	≥98%
UV/Vis.:	λ_{max}: 236, 360 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Felodipine is supplied as a crystalline solid. A stock solution may be made by dissolving the felodipine in the solvent of choice, which should be purged with an inert gas. Felodipine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of felodipine in ethanol is approximately 20 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Felodipine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, felodipine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Felodipine has a solubility of approximately 0.25 mg/ml in a 1:3 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Felodipine is an inhibitor of L-type calcium channels.[1] It induces relaxation of precontracted isolated porcine coronary artery segments (EC_{50} = 0.15 nM), which highly express L-type calcium channels.[2] Felodipine is selective for L-type calcium channels over N-, R-, and P/Q-type channels at 10 µM, as well as the T-type $Ca_v3.2$ channel (IC_{50} = 6.8 µM).[1,3] Felodipine preferentially inhibits L-type calcium channels in isolated rat portal vein over rat left ventricle (IC_{50}s = 33.9 and 3,981 nM, respectively).[4] It decreases mean arterial blood pressure and total peripheral resistance in a rabbit model of hypertension induced by renal artery ligation when administered intravenously at doses of 30 and 100 nmol/kg.[5]

References

1. Furukawa, T., Yamakawa, T., Midera, T., *et al.* Selectivities of dihydropyridine derivatives in blocking Ca^{2+} channel subtypes expressed in *Xenopus* oocytes. *J. Pharmacol. Exp. Ther.* **291(2)**, 464-473 (1999).
2. Johnson, J.D. and Fugman, D.A. Calcium and calmodulin antagonists binding to calmodulin and relaxation of coronary segments. *J. Pharmacol. Exp. Ther.* **226(2)**, 330-334 (1983).
3. Perez-Reyes, E., Van Deusen, A.L., and Vitko, I. Molecular pharmacology of human $Ca_v3.2$ T-type Ca^{2+} channels: Block by antihypertensives, antiarrhythmics, and their analogs. *J. Pharmacol. Exp. Ther.* **328(2)**, 621-627 (2009).
4. Ljung, B. Vascular selectivity of felodipine: Experimental pharmacology. *J. Cardiovasc. Pharmacol.* **15(Suppl 4)**, S11-S16 (1990).
5. Bolt, G.R. and Saxena, P.R. Acute systemic and regional hemodynamic effects of felodipine, a new calcium antagonist, in conscious renal hypertensive rabbits. *J. Cardiovasc. Pharmacol.* **6(4)**, 707-712 (1984).

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