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_{2}NO_{4}
FW: 384.3
Purity: ≥98%
UV/Vis.: \( \lambda_{\text{max}}: 236, 360 \text{ nm} \)
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\(_{50} = 0.15 \text{ nM}\)), 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\(_{v}3.2\) channel (IC\(_{50} = 6.8 \mu\text{M}\)).\(^1,3\) Felodipine preferentially inhibits L-type calcium channels in isolated rat portal vein over rat left ventricle (IC\(_{50} = 33.9 \text{ and } 3,981 \text{ nM}\), 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