Amlodipine
Item No. 14838

CAS Registry No.: 88150-42-9
Formal Name: 3-ethyl 5-methyl ester 2-[(2-aminoethoxy)methyl]-4-(2-chlorophenyl)-1,4-dihydro-6-methyl-3,5-pyridinedicarboxylic acid
Synonyms: Intervask, Pelmec
MF: C_{20}H_{25}ClN_{2}O_{5}
FW: 408.9
Purity: ≥98%
Stability: ≥2 years at -20°C
Supplied as: A crystalline solid

Laboratory Procedures

For long term storage, we suggest that amlodipine be stored as supplied at -20°C. It should be stable for at least two years.

Amlodipine is supplied as a crystalline solid. A stock solution may be made by dissolving the amlodipine in the solvent of choice. Amlodipine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of amlodipine in ethanol and DMSO is approximately 12.5 mg/ml and approximately 20 mg/ml in DMF.

Amlodipine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, amlodipine should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Amlodipine has a solubility of approximately 70 μg/ml in a 1:2 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Amlodipine is a dihydropyridine L-type calcium channel blocker that selectively inhibits calcium influx in cardiac and vascular smooth muscle. 1 Acting as a vasodilator, amlodipine reduces blood pressure by relaxing the smooth muscle in the arterial wall, decreasing total peripheral resistance. It inhibits calcium-induced contractions in depolarized rat aorta with an IC_{50} value of 1.9 nM, displaying a slow rate of association and dissociation in isolated vascular and cardiac tissues. 1 When used in combination with the angiotensin receptor blocker olmesartan, amlodipine has been shown to potentiate antihypertensive activity. 2 Amlodipine also demonstrates actions independent of L-type calcium channel blockade by regulating membrane fluidity and cholesterol deposition, stimulating nitric oxide production, acting as an antioxidant, and regulating matrix deposition. 3

References


Related Products

For a list of related products please visit: www.caymanchem.com/catalog/14838

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WARNING: THIS PRODUCT IS FOR LABORATORY RESEARCH ONLY: NOT FOR ADMINISTRATION TO HUMANS, NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until information to the contrary becomes available. Do not ingest, swallow, or inhale. Do not get in eyes, on skin, or on clothing. Wash thoroughly after handling. This information contains some, but not all, of the information required for the safe and proper use of this material. Before use, the user must review the complete Safety Data Sheet, which has been sent to the email address you provided.

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