PRODUCT INFORMATION

Benidipine (hydrochloride)
Item No. 21607

CAS Registry No.: 91599-74-5
Formal Name: (4R)-rel-1,4-dihydro-2,6-dimethyl-4-(3-nitrophenyl)-3,5-pyridinedicarboxylic acid, 3-methyl 5-[(3R)-1-(phenylmethyl)-3-piperidinyl] ester, monohydrochloride
Synonyms: (±)-Benidipine, KW-3049
MF: C_{28}H_{31}N_{3}O_{6} • HCl
FW: 542.0
Purity: ≥98%
UV/Vis.: λ_{max}**: 237, 356 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥2 years

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

Laboratory Procedures

Benidipine (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the benidipine (hydrochloride) in the solvent of choice. Benidipine (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF), which should be purged with an inert gas. The solubility of benidipine (hydrochloride) in ethanol is approximately 10 mg/ml and approximately 30 mg/ml in DMSO and DMF.

Description

Benidipine is an orally bioavailable blocker of L-, T-, and N-type calcium channels. In guinea pig ventricular cells benidipine has an IC_{50} of 2.7 nM for calcium currents, determined using whole cell voltage clamp electrophysiology. It prevents oxidative stress dose-dependently in vitro, decreases blood pressure in spontaneously hypertensive rats (at 3 and 10 mg/kg), and is neuroprotective for neural stem cells after oxidative stress-induced injury. Benidipine is also a competitive antagonist at mineralocorticoid receptors.

References