PRODUCT INFORMATION

Y-27632 (hydrochloride)
Item No. 10005583

CAS Registry No.: 129830-38-2
Formal Name: 4-[(1R)-1-aminoethyl]-N-4-pyridinyl-trans-cyclohexanecarboxamide, dihydrochloride
MF: C_{14}H_{21}N_{3}O • 2HCl
FW: 320.3
Purity: ≥ 98%
UV/Vis.: \( \lambda_{\text{max}} \): 270 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

Y-27632 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the Y-27632 (hydrochloride) in an organic solvent purged with an inert gas. Y-27632 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of Y-27632 (hydrochloride) in these solvents is approximately 5, 30, and 20 mg/ml, respectively.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of Y-27632 (hydrochloride) can be prepared by directly dissolving the crystalline compound in aqueous buffers. The solubility of Y-27632 (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

The ROCK family of Rho-associated serine-threonine protein kinases is known to play an important role in Rho-mediated cell adhesion and smooth muscle contraction. Y-27632 is a potent, ATP-competitive inhibitor of ROCKs including p160ROCK (K_i = 140 nM) and ROCK-II (IC_{50} = 800 nM). It also inhibits PRK2 with an IC_{50} value of 600 nM.\(^1,2\) One-hour treatment with 10 µM Y-27632 blocks apoptosis of dissociated cultured human embryonic stem cells, increasing cloning efficiency by 25% and sustaining survival up to 30 passages.\(^3\)

References