Technical Data Sheet: Y27632 (2HCl)

Catalog Number	SML13B
Synonyms	Y-27632 dihydrochloride, Y-27632, ROCK inhibitor
Size	10 mg
Description	Y27632 dihydrochloride is a highly specific inhibitor of Rho-associated coiled-coil protein kinase (ROCK) activity as a cell-permeable, ATP-competitive inhibitor of both ROCK1 (Ki of 220 nM) and ROCK2 (Ki 300 nM) (Ishizaki, et al.). Human embryonic stem cell (ESC) survival is improved through enhanced attachment following single cell dissociation, cryopreservation, and FACS sorting in both feeder-dependent and -independent cultures (Emre, et al.). This enhanced cell attachment, and thus recovery, is boosted through decreased dissociation-induced apoptosis (Watanabe, et al.).
Molecular Weight	320.26
Molecular Formula	$C_{14}H_{23}Cl_2N_3O$
Chemical Name	Cyclohexanecarboxamide, 4-[(1R)-1-aminoethyl]-N-4-pyridinyl-, hydrochloride (1:2), trans-
CAS Number	129830-38-2
Target	ROCK
Appearance	White to off-white (Solid)
Purity	≥95% by HPLC
Solubility and Reconstitution	Soluble in DMSO and PBS up to 100 mM, for example: 10 mg/31.225 mL = 0.320 mg/mL = 1 mM 10 mg/6.245 mL = 1.601 mg/mL = 5 mM 10 mg/3.123 mL = 3.202 mg/mL = 10 mM 10 mg/0.624 mL = 16.026 mg/mL = 50 mM
Storage Temperature and Stability	Powder: -20°C 3 years 4°C 2 years In solvent: -80°C 6 months -20°C 1 month
References	Emre, et al. 2010. The ROCK inhibitor Y-27632 improves recovery of human embryonic stem cells after fluorescence-activated cell sorting with multiple cell surface markers. Plos One. 5(8): e12148. Ishizaki, et al. 2000. Pharmacological properties of Y-27632, a specific inhibitor of rho-associated kinases. Molecular Pharmacology. 57: 976-983. Watanabe, et al. 2007. A ROCK inhibitor permits survival of dissociated human embryonic stem cells. Nature Biotechnology. 25(6): 681-686.

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