

Certificate of Analysis

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Product Name: Y-27632 dihydrochloride

Catalog No.: 1254

Batch No.: 51

CAS Number: 129830-38-2

IUPAC Name: *trans*-4-[(1*R*)-1-Aminoethyl]-*N*-4-pyridinylcyclohexanecarboxamide dihydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: C₁₄H₂₁N₃O.2HCl.H₂O

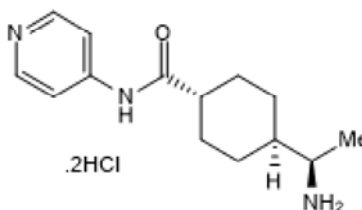
Batch Molecular Weight: 338.28

Physical Appearance: White solid

Solubility: water to 100 mM
DMSO to 100 mM

Storage: Desiccate at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 99.1% purity

Chiral HPLC: Shows 99.8% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon	Hydrogen	Nitrogen	
Theoretical	49.71	7.45	12.42	20.96
Found	49.63	7.19	12.3	21.22

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Y-27632 dihydrochloride is a selective ROCK inhibitor (K_i values are 0.14-0.22, 0.3, 25, 26 and > 250 μ M for ROCK1 (p160 ROCK), ROCK2, PKA, PKC and MLCK respectively). Also inhibits PRK2 (IC_{50} = 600 nM). Increases survival rate of human embryonic stem (hES) cells and iPSC undergoing cryopreservation. Used in combination with CHIR99021, RepSox, Forskolin, SP 600125, Go 6983 and VPA to reprogram fibroblasts to mature neurons. Also optimizes naive human pluripotent stem cell growth and viability following naive cell derivation from primed ESCs and iPSCs using naive human stem cell medium (NHSM). Used as component of growth media for ur... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

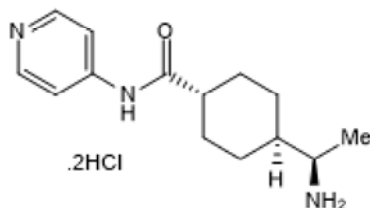
Batch Molecular Formula: $C_{14}H_{21}N_3O \cdot 2HCl \cdot H_2O$

Batch Molecular Weight: 338.28

Physical Appearance: White solid

Minimum Purity: $\geq 98\%$

Batch Molecular Structure:



References:

Santos et al (2019) Urothelial organoids originating from Cd49^{high} mouse stem cells display Notch-dependent differentiation capacity. *Nat. Commun.* **10** 4407. PMID: 31562298.

Wimmer et al (2019) Human blood vessel organoids as a model of diabetic vasculopathy. *Nature* **565** 505. PMID: 30651639.

Chan et al et al (2016) Development of bipotent cardiac/skeletal myogenic progenitors from MESP1+ mesoderm. *Stem Cell Rep.* **6** 26. PMID: 26771351.

Storage: Desiccate at RT

Solubility & Usage Info:

water to 100 mM

DMSO to 100 mM

When purchased as a 1mg unit, this product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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