

## Product datasheet

# Y-27632 dihydrochloride, Rho kinase inhibitor ab120129

★★★★★ [2 Abreviews](#) [106 References](#) [3 Images](#)

### Overview

<b>Product name</b>	Y-27632 dihydrochloride, Rho kinase inhibitor
<b>Description</b>	Selective Rho kinase inhibitor
<b>Biological description</b>	Y-27632 is a research tool with a wide variety of biological effects, mainly used in the field of stem cell research for maintenance and differentiation. Commonly used as 3D growth matrix component; also a component of brain organoid differentiation media.

How others have used Y-27632 in their research:

**Maintenance** of tissue culture of iPSCs; 10  $\mu$ M Y-27632 for 24 hr; Montefiori et al (2018)

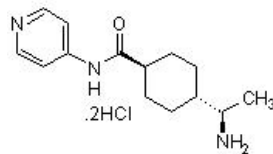
**Reprogramming** of breast cancer cells to induced progenitor-like cells (iPLs) ; 2  $\mu$ M Y27632 ; Yuan et al (2018)

**Differentiation** - Y-27632 enables human embryonic stem cells to survive and differentiate into cortical and basal telencephalic progenitors; Watanabe et al (2007)

\*Also available in simple stock solutions ([ab144494](#)) - add 1 ml of water to get an exact, ready-to-use concentration.

**CAS Number** 129830-38-2

### Chemical structure



### Properties

<b>Chemical name</b>	(R)-(+)- <i>trans</i> -4-(1-Aminoethyl)-N-(4-pyridyl)cyclohexanecarboxamide dihydrochloride
<b>Molecular weight</b>	320.26
<b>Molecular formula</b>	C <sub>14</sub> H <sub>21</sub> N <sub>3</sub> O <sub>2</sub> .2HCl
<b>PubChem identifier</b>	9901617
<b>Storage instructions</b>	Store at +4°C. Store under desiccating conditions. The product can be stored for up to 2 years.
<b>Solubility overview</b>	Soluble in water to 100 mM and in DMSO to 100mM

## Handling

Wherever possible, you should prepare and use solutions on the same day. However, if you need to make up stock solutions in advance, we recommend that you store the solution as aliquots in tightly sealed vials at -20°C. Generally, these will be useable for up to one month. Before use, and prior to opening the vial we recommend that you allow your product to equilibrate to room temperature for at least 1 hour.

Refer to SDS for further information.

Need more advice on solubility, usage and handling? Please visit our [frequently asked questions \(FAQ\) page](#) for more details.

## SMILES

Cl.Cl.O=C(Nc1ccncc1)[C@@H]2CC[C@H](CC2)[C@@H](C)N

## Source

Synthetic

## Applications

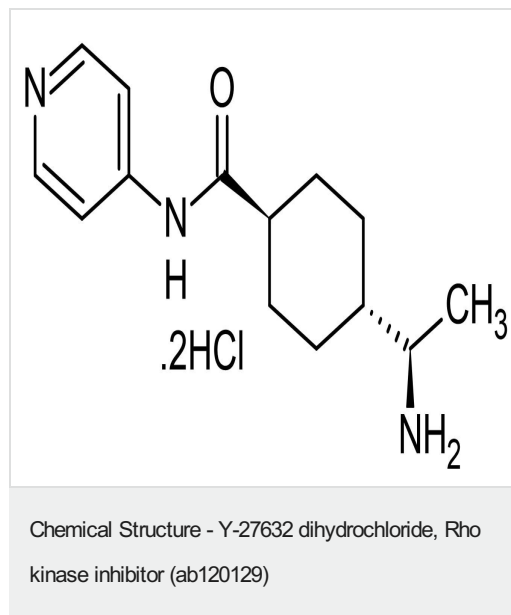
### The Abpromise guarantee

Our [Abpromise guarantee](#) covers the use of ab120129 in the following tested applications.

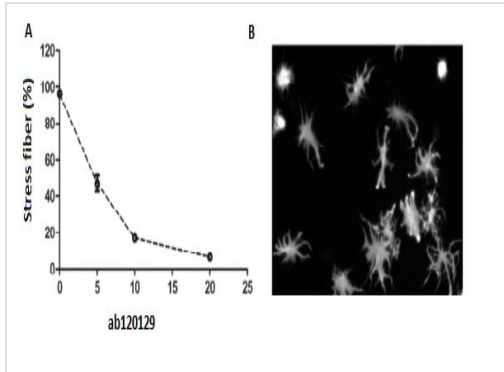
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Functional Studies		Use at an assay dependent concentration.

## Images



2D chemical structure image of ab120129, Y-27632 dihydrochloride, Rho kinase inhibitor



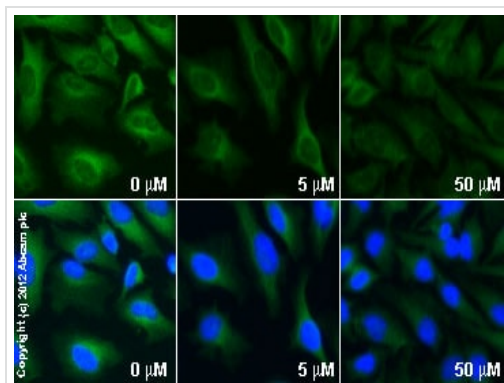
Functional Studies - Y-27632 dihydrochloride, Rho kinase inhibitor (ab120129)

Shiri D et al. PLoS One. 2012; 7(7): e41958. doi: 10.1371/journal.pone.0044400 Reproduced under the Creative Commons license <http://creativecommons.org/licenses/by/4.0/>

A: Serum-starved human TM cells were incubated on chamber glass slides coated with recombinant human Gal8 in the presence of the ROCK inhibitor ab120129, at different concentrations. After 2 hr, cells were stained with rhodamine-labeled phalloidin, and cells with robust stress fibers were enumerated. Data are expressed as mean±SEM.

B: Cells were treated with an 120129 (Y27632) at 20 μM, stained with rhodamine-labeled phalloidin, and random fields were photographed. Note that cells treated with ab120129 are not spread and exhibit dendrite-like structures.

Credit: Shiri D et al. PLoS One. 2012; 7(7): e41958. doi: 10.1371/journal.pone.0044400



Functional Studies - Y-27632 dihydrochloride, Rho kinase inhibitor (ab120129)

**ab46154** staining VEGF in HeLa cells treated with Y-27632 dihydrochloride (ab120129), by ICC/IF. Decrease in VEGF expression correlates with increased concentration of Y-27632 dihydrochloride, as described in literature.

The cells were incubated at 37°C for 1h in media containing different concentrations of ab120129 (Y-27632 dihydrochloride) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with **ab46154** (5 μg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-rabbit polyclonal antibody (**ab96899**) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.

**Please note:** All products are "FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC PROCEDURES, NOT FOR USE IN HUMANS"

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