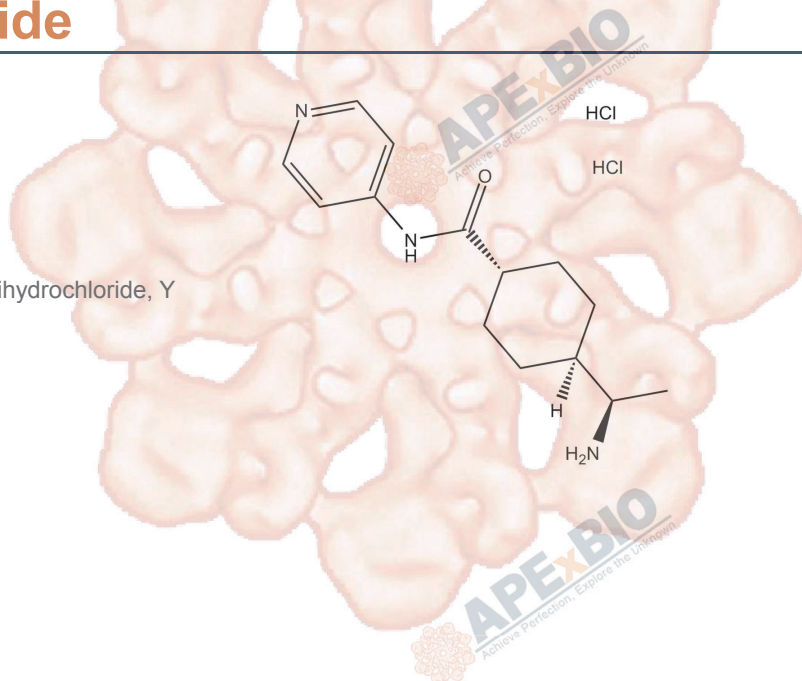


## Y-27632 dihydrochloride

<b>Cat. No.:</b>	A3008
<b>CAS No.:</b>	146986-50-7; 129830-38-2
<b>Formula:</b>	C <sub>14</sub> H <sub>21</sub> N <sub>3</sub> O·2HCl
<b>M.Wt:</b>	320.26
<b>Synonyms:</b>	y-27632, Y27632, Y-27632 dihydrochloride, Y27632
<b>Target:</b>	TGF-β / Smad Signaling
<b>Pathway:</b>	ROCK
<b>Storage:</b>	Desiccate at 4°C or below



### Solvent & Solubility

≥52.9mg/ml in H<sub>2</sub>O; ≥16.013mg/mL in DMSO

In Vitro

Preparing Stock Solutions	Mass		1mg	5mg	10mg
	Solvent	Concentration			
		1 mM	3.1225 mL	15.6123 mL	31.2246 mL
		5 mM	0.6245 mL	3.1225 mL	6.2449 mL
		10 mM	0.3122 mL	1.5612 mL	3.1225 mL

Please refer to the solubility information to select the appropriate solvent

### Biological Activity

Shortsummary

ROCK1 inhibitor

IC<sub>50</sub> & Target

140 nM (Ki) (ROCK1), 300 nM (Ki) (ROCK2)

In Vitro

#### Cell Viability Assay

Cell Line: Human (hu) and rat(r) prostatic smooth mus-cle cells (PSM)

Preparation method: The solubility of this compound in DMSO is >10 mM. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions: 24h and 48 h; 100 μM

	Applications:	After identifying prostatic smooth muscle cells and confirming the expression of Rho-kinase in these cells we investigated whether the Rho-kinase inhibitor Y-27632 affected the viability and proliferation of these cells. In serum-free medium huPSM and rPSM were made quiescent for 24 hours. Cell viability using neutral red and MTT assays was assessed 24 and 48 hours after stimulating the cells with 1% serum in the absence and presence of Y-27632 (0.01 to 100 $\mu$ M). The results of these assays showed that the number of the cells increased between the 24- and 48-hour incubation periods after re-stimulation with 1% serum. However, in the presence of Y-27632 the increase in the number of live cells was less than in the control group. This effect was concentration dependent.
In Vivo	<b>Animal experiment</b>	
	Animal models:	Adult Swiss male albino mice
	Dosage form:	0.1 mg/kg/day; intraperitoneal injection
	Applications:	The drug was tested by histopathological examination showed that Y-27632 administration to EAC-bearing mice diminished pathological structure, to 60–70% degree, toward to normal intact histological structure especially in pre-carcinoma inoculation regime. Respect to this, ROCK inhibition by Y-27632 decreased significantly tumor invasion and metastasis. Our immunohistochemistry results showed that ROCK2 was mainly inhibited by Y-27632 in pre-carcinoma, but not in post-carcinoma, groups.
Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.	

## Product Citations

1. Ni P, Noh H, et al. "Large-Scale Generation and Characterization of Homogeneous Populations of Migratory Cortical Interneurons from Human Pluripotent Stem Cells." *Mol Ther Methods Clin Dev.* 2019 Apr 8;13:414-430. PMID:31061832
2. Speer JE, Gunasekara DB, et al. "Molecular transport through primary human small intestinal monolayers by culture on a collagen scaffold with a gradient of chemical cross-linking." *J Biol Eng.* 2019 Apr 27;13:36. PMID:31061676
3. Ni P, Noh H, et al. "iPSC-derived homogeneous populations of developing schizophrenia cortical interneurons have compromised mitochondrial function." *Mol Psychiatry.* 2019 Apr 24. PMID:31019265
4. Dakhama A, Al Mubarak R, et al. "Tollip Inhibits ST2 Signaling in Airway Epithelial Cells Exposed to Type 2 Cytokines and Rhinovirus." *J Innate Immun.* 2019 Mar 29;1-13. PMID:30928973
5. Grun D, Adhikary G, et al. "NRP-1 interacts with GIPC1 and SYX to activate p38 MAPK signaling and cancer stem cell survival." *Mol Carcinog.* 2018 Nov 19. PMID:30456845

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## References

[1] Rees R W, Foxwell N A, Ralph D J, et al. Y-27632, a Rho-kinase inhibitor, inhibits proliferation and adrenergic contraction of prostatic smooth muscle cells[J]. The Journal of urology, 2003, 170(6): 2517-2522.

[2] Isler D, Ozaslan M, Karagoz I D, et al. Antitumoral effect of a selective Rho-kinase inhibitor Y-27632 against Ehrlich ascites carcinoma in mice[J]. Pharmacological Reports, 2014, 66(1): 114-120.

## Caution

**FOR RESEARCH PURPOSES ONLY.**

**NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.**

*Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.*

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