For Research Use Only

Y-27632 dihydrochloride

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Catalog Number: CM00900

产品信息

Catalog Number:
CM00900

CAS号:
129830-38-2

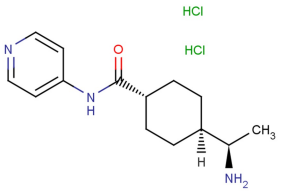
分子式:
$C_{14}H_{21}N_3O \cdot 2HCl$

主要靶点:
Apoptosis|ROCK

主要通路:
干细胞|细胞骨架|细胞周期|凋亡

分子量:
320.26

溶解度:
DMSO:50 mg/mL (156.12 mM);H2O:32.03 mg/mL (100 mM)



靶点活性

ROCK1 (p160ROCK):140 nM (Ki, cell free)|ROCK2:300 nM (Ki, cell free)

体外活性

方法：人诱导多能干细胞 marmoset iPSC 用 Y-27632 (5-20 μM) 处理 7 天，使用 AKP 检测克隆形成情况。 **结果：**Y-27632 显著提高 marmoset iPSC 的克隆效率。[1] **方法：**成人脂肪组织衍生干细胞 ADSCs 用 Y-27632 (5 μmol/L) 处理 1 h，检测 ADSCs 的形态变化。 **结果：**Y-27632 剂量依赖性诱导 ADSCs 的神经元分化，5 μmol/L Y-27632 处理 1 h 的 ADSCs的神经元样细胞百分比为（93.5±4.7）%。[2] **方法：**食蟹猴胚胎干细胞 cyES 常规传代或用 Y-27632 (1-10 μM) 处理 24 h，使用 Flow Cytometry 方法进行活-死染色，使用试剂盒检测 BrdU。 **结果：**Y-27632 促进 cyES 存活细胞增加。Y-27632 没有促进细胞增殖，但保护细胞在单细胞消化后免于细胞死亡。[3]

体内活性

方法：为研究 Y-27632 在运动神经元疾病的治疗潜力，将 Y-27632 (2 or 30 mg/kg in drinking water) 口服给 ALS 模型的 SOD1G93A 小鼠，持续 137 天。 **结果：**Y-27632 2 mg/kg 治疗的效果不佳，Y-27632 30 mg/kg 治疗可改善雄性小鼠的运动功能，雌性小鼠仅表现出有限的改善。[4] **方法：**为研究 Y-27632 对肝纤维化的影响，将 Y-27632 (30 mg/kg) 口服给药给 dimethylnitrosamine (DMN) 诱导肝纤维化的大鼠，每天一次，持续四周。 **结果：**Y-27632 治疗显著减少了 DMN 诱导的肝纤维化的发生，并降低了肝脏中胶原和羟脯氨酸的含量以及 α-SMA 的表达。[5]

动物实验

A group of animals was injected with a single dose of pentylenetetrazole (PTZ, 65?mg/kg) to investigate if the two Rho-kinase inhibitors, fasudil, and Y-27632, changed the onset of PTZ seizures. Fasudil, Y-27632 or saline was given intraperitoneally 30?min before the PTZ injection. Each mouse was then observed for a 15-min period to measure the onset of the first myoclonic jerk, the onset of the first clonic convulsion and the occurrence of tonic hindlimb extension. Some of the animals died after tonic hindlimb extension, which is an expected outcome of acute PTZ injection. After the observation period, all animals were killed by halothane anesthesia [5]. Seven-week-old male Wistar rats were anesthetized with sodium pentobarbital. A silver clip (0.2 mm in diameter) was placed on the left renal artery in the preparation of the renal hypertensive rats. In the preparation of the DOCA-salt hypertensive rats, the left kidney was removed and a DOCA pellet (50 mg) was implanted subcutaneously. The DOCA rats were then fed an 8% salt diet. Rats from both groups were used after 8 weeks in the experiments, together with a male, 17–22-week old spontaneously hypertensive rats. The average systolic pressure in these groups of hypertensive rats ranged from 209 to 237 mm Hg, and no significant difference was found between groups. Eight-week-old male Wistar rats were used as controls. Their average systolic pressure was 139 mm Hg. Y-27632was administered orally. The systolic blood pressure was measured by the tail cuff method at 1, 3, 5, 7 and 24 h. The rats were prewarmed to 40 8C for 10 min before each measurement. No toxicity was found in rats treated with 30 mg kg?1 of Y-27632 administered per os once per day for 10 days [4].

细胞实验

HeLa cells are plated at a density of 3×10^4 cells per 3.5-cm dish. The cells are cultured in DMEM containing 10% FBS in the presence of 10 mM Thymidine for 16 h. After the cells are washed with DMEM containing 10% FBS, they are cultured for an additional 8 h, and then 40 ng/mL of Nocodazole is added. After 11.5 h of the Nocodazole treatment, various concentrations of Y-27632 (0-300 μM) or vehicle is added and the cells are incubated for another 30 min [1].

储存

keep away from moisture,keep away from direct sunlight,store at low temperature | Powder: -20°C for 3 years | In solvent: -80°C for 1 year | Shipping with blue ice.