

Product Name : Ripasudil hydrochloride dihydrate

Synonyms : K-115

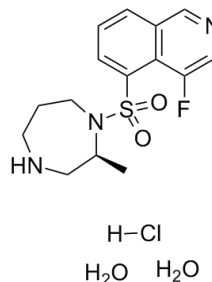
Cat No. : M22117

CAS Number : 887375-67-9

Molecular Formula : C₁₅H₂₃ClFN₃O₄S

Formula Weight : 395.88

Chemical Name : —



Description : Ripasudil (K-115) hydrochloride dihydrate is a specific ROCK inhibitor (IC₅₀s: 51/19 nM for ROCK1/ROCK2). Ripasudil shows less potent inhibitory activities against CaMKIIα, PKAα, and PKC (IC₅₀s: 370 nM, 2.1 μM and 27 μM) [1]. Ripasudil (1, 10 μM) induces cytoskeletal changes, including retraction and cell rounding and reduced actin bundles of cultured trabecular meshwork (TM) cells. Ripasudil (5 μM) significantly reduces transendothelial electrical resistance (TEER) and increases FITC-dextran permeability in Schlemm's canal endothelial (SCE) cell monolayers [2]. Ripasudil reduces intraocular pressure in a concentration-dependent manner at concentrations between 0.1% and 0.4% in monkey eyes and 0.0625% to 0.5% in rabbit eyes, respectively. Ripasudil (1 mg/kg, p.o. daily) shows a neuroprotective effect on retinal ganglion cells (RGCs) after nerve crush (NC). Ripasudil also inhibits the oxidative stress induced by axonal injury in mice. Ripasudil suppresses the time-dependent production of ROS in RGCs after NC injury.

Pathway : Cell Cycle/DNA Damage

Target : ROCK

Receptor : ROCK1; ROCK2

Solubility : Water: 45 mg/mL (113.67 mM)

SMILES : O.O.Cl.C[C@H]1CNCCC1S(=O)(=O)c1cccc2cncc(F)c12

Storage : (-20°C)

Stability : ≥ 2 years

Reference :

1. Isobe T, et al. Effects of K-115, a rho-kinase inhibitor, on aqueous humor dynamics in rabbits. Curr Eye Res. 2014 Aug;39(8):813-22.