**Product Description**

Fasudil (also known as HA-1077) is a potent inhibitor of Rho-associated coiled-coil containing protein kinase 2 (ROCK2; IC₅₀ = 1.9 µM). Additionally, it inhibits protein kinase C-related kinase 2 (PRK2), mitogen- and stress-activated protein kinase (MSK1), and mitogen-activated protein kinase-activated protein kinase 1b (MAPKAP-K1b) with IC₅₀ values of 4, 5, and 15 µM, respectively (Davies et al.). This product is supplied as the dihydrochloride salt of the molecule.

**Molecular Name:** Fasudil (Dihydrochloride)

**Alternative Names:** HA-1077

**CAS Number:** 203911-27-7

**Chemical Formula:** C₁₄H₁₇N₃O₂S · 2HCl

**Molecular Weight:** 364.3 g/mol

**Purity:** ≥ 98%

**Chemical Name:** hexahydro-1-(5-isoquinolinylsulfonyl)-1H-1,4-diazepine, dihydrochloride

**Structure:**

![Structure Diagram](image)

**Properties**

**Physical Appearance:** A crystalline solid

**Storage:**

Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant.

Stable as supplied for 12 months from date of receipt.

**Solubility:**

- PBS (pH 7.2) ≤ 13 mM
- DMSO ≤ 5.5 mM

For example, to prepare a 5 mM stock solution in PBS, resuspend 10 mg in 5.49 mL of PBS. Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in DMSO at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use. Avoid final DMSO concentration above 0.1% due to potential cell toxicity.
Published Applications

DIFFERENTIATION
- Suppresses proliferation and collagen production but also increases collagenase activity of hepatic stellate cells (Fukushima et al.).
- Inhibits endothelial cell migration, viability, and tube formation in vitro in human umbilical vein endothelial cells (HUVECs; Yin et al.).
- Improves adipocyte differentiation, preventing development of diabetes and nephropathy in insulin-resistant diabetic rats (Kikuchi et al.).

DISEASE MODELING
- Reduces pulmonary arterial hypertension in rats (Oka et al.).
- Enhances neurological recovery after traumatic spinal cord injury (Hara et al.).
- Inhibits corneal neovascularization after alkali burns and promotes the healing of corneal epithelial defects in mice (Zeng et al.).

References

Related Small Molecules
For a complete list of small molecules available from STEMCELL Technologies, visit www.stemcell.com/smallmolecules or contact us at techsupport@stemcell.com.