

Certificate of Analysis

Product Name: Fasudil hydrochloride

Catalog No.: 0541

Batch No.: 4

CAS Number: 105628-07-7

IUPAC Name: 1-(5-Isoquinolinesulfonyl)homopiperazine hydrochloride

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{14}H_{17}N_3O_2S \cdot HCl \cdot \frac{1}{2}H_2O$

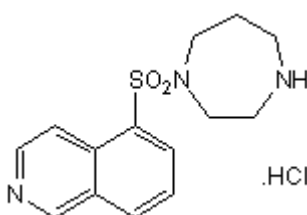
Batch Molecular Weight: 336.84

Physical Appearance: White solid

Solubility: water to 100 mM

Storage: Store at RT

Batch Molecular Structure:



2. ANALYTICAL DATA

HPLC: Shows 100% purity

¹H NMR: Consistent with structure

Mass Spectrum: Consistent with structure

Microanalysis:

	Carbon Hydrogen Nitrogen		
Theoretical	49.92	5.69	12.47
Found	50.09	5.59	12.51

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Cyclic nucleotide-dependent protein kinase inhibitor and Rho-associated kinase inhibitor (IC₅₀ = 10.7 μM). Suppress MMP-2 expression and induce apoptosis in glioblastoma cells *in vivo*. Ca²⁺ antagonist and vasodilator. Also inhibits proliferation of vascular smooth muscle cells.

Physical and Chemical Properties:

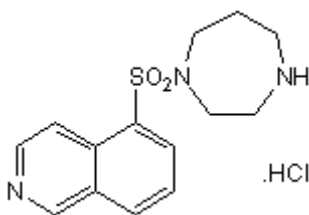
Batch Molecular Formula: C₁₄H₁₇N₃O₂S.HCl.½H₂O

Batch Molecular Weight: 336.84

Physical Appearance: White solid

Minimum Purity: >98%

Batch Molecular Structure:



Storage: Store at RT

Solubility & Usage Info:

water to 100 mM

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. Our standard recommendations are:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

References:

Shirotani et al (1991) A new type of vasodilator, HA1077, an isoquinoline derivative, inhibits proliferation of bovine vascular smooth muscle cells in culture. *J.Pharmacol.Exp.Ther.* **259** 738. PMID: 1941621.

Arai et al (1993) Inhibition by the protein kinase inhibitor HA-1077 of the activation of NADPH oxidase in human neutrophils. *Biochem.Pharmacol.* **46** 1487. PMID: 8240400.

Satoh et al (1996) Neuroprotective properties of a protein kinase inhibitor against ischaemia-induced neuronal damage in rats and gerbils. *Br.J.Pharmacol.* **118** 1592. PMID: 8842419.

Sward et al (2000) Inhibition of Rho-associated kinase blocks agonist-induced Ca²⁺ sensitization of myosin phosphorylation and force in guinea-pig ileum. *J.Physiol.* **522** 33. PMID: 10618150.

Deng et al (2010) Rho-kinase inhibitor, fasudil, suppresses glioblastoma cell line progression *in vitro* and *in vivo*. *Cancer Biol Ther.* **875** 875. PMID: 20364104.

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