

## Certificate of Analysis

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**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<sub>14</sub>H<sub>17</sub>N<sub>3</sub>O<sub>2</sub>S.HCl.½H<sub>2</sub>O

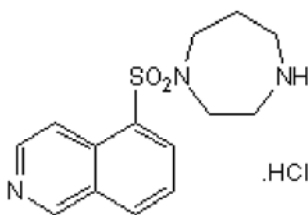
**Batch Molecular Weight:** 336.84

**Physical Appearance:** White solid

**Solubility:** water to 100 mM

**Storage:** Store at RT

**Batch Molecular Structure:**



### 2. ANALYTICAL DATA

**HPLC:** Shows 100% purity

**<sup>1</sup>H 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:**

Fasudil hydrochloride is a cyclic nucleotide-dependent protein kinase inhibitor and Rho-associated kinase inhibitor ( $IC_{50} = 10.7 \mu\text{M}$ ). Fasudil suppresses MMP-2 expression and induces apoptosis in glioblastoma cells *in vivo*. Fasudil is a  $\text{Ca}^{2+}$  antagonist, vasodilator and inhibits proliferation of vascular smooth muscle cells. Fasudil binds to  $\alpha$ -synuclein to reduce aggregate formation in cellular models of Parkinson's disease, also displays neuroprotective properties and increases survival of dopaminergic neurons *in vivo*.

**Physical and Chemical Properties:**

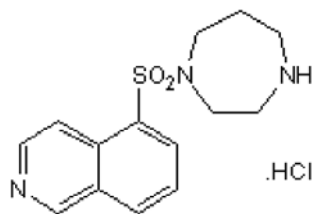
Batch Molecular Formula:  $\text{C}_{14}\text{H}_{17}\text{N}_3\text{O}_2\text{S} \cdot \text{HCl} \cdot \frac{1}{2}\text{H}_2\text{O}$

Batch Molecular Weight: 336.84

Physical Appearance: White solid

**Minimum Purity:**  $\geq 98\%$

**Batch Molecular Structure:**



**References:**

**Pujols *et al*** (2020) Chemical chaperones as novel drugs for Parkinson's Disease. *Trends Mol.Med.* **26** 408. PMID: 32277934.

**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.

**Sward *et al*** (2000) Inhibition of Rho-associated kinase blocks agonist-induced  $\text{Ca}^{2+}$  sensitization of myosin phosphorylation and force in guinea-pig ileum. *J.Physiol.* **522** 33. PMID: 10618150.

**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.

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