

PRODUCT INFORMATION



H-89 (hydrochloride)

Item No. 10010556

CAS Registry No.: 130964-39-5

Formal Name: N-[2-[[3-(4-bromophenyl)-2-propen-1-yl]amino]ethyl]5-isoquinolinesulfonamide, dihydrochloride

Synonyms: 5-Isoquinolinesulfonamide, Protein Kinase Inhibitor H-89

MF: $C_{20}H_{20}BrN_3O_2S \cdot 2HCl$

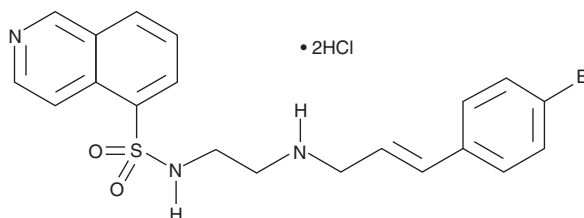
FW: 519.3

Purity: $\geq 98\%$

Stability: ≥ 2 years at $-20^\circ C$

Supplied as: A crystalline solid

UV/Vis.: λ_{max} : 215, 260 nm



Laboratory Procedures

For long term storage, we suggest that H-89 (hydrochloride) be stored as supplied at $-20^\circ C$. It should be stable for at least two years.

H-89 (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the H-89 (hydrochloride) in an organic solvent purged with an inert gas. H-89 (hydrochloride) is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of H-89 (hydrochloride) in ethanol is approximately 0.15 mg/ml and approximately 25 mg/ml in DMSO and DMF.

H-89 (hydrochloride) is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, H-89 (hydrochloride) should first be dissolved in DMF and then diluted with the aqueous buffer of choice. H-89 (hydrochloride) has a solubility of approximately 0.5 mg/ml in a 1:1 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Protein kinase A (PKA) regulates multiple signal transduction events *via* protein phosphorylation and is integral to all cellular responses involving the cyclic AMP second messenger system. H-89 is a potent, cell permeable inhibitor of PKA that demonstrates an IC_{50} value of 0.14 μM and a K_i value of 48 nM in standard kinase assays.^{1,2} While widely used to disrupt PKA signaling, the inhibitory activity of H-89 is non-selective. H-89 also inhibits S6K1, MSK1, ROCK-II, PKBa, and MAPKAP-K1b with IC_{50} values of 0.08, 0.12, 0.27, 2.6, and 2.8 μM , respectively.¹

References

1. Davis, S.P., Reddy, H., Caivano, M., *et al.* Specificity and mechanism of action of some commonly used protein kinase inhibitors. *Biochem J.* **351**, 95-105 (2000).
2. Engh, R.A., Girod, A., Kinzel, V., *et al.* Crystal structures of catalytic subunit of cAMP-dependent protein kinase in complex with isoquinolinesulfonyl protein kinase inhibitors H7, H8, and H89 structural implications for selectivity. *J. Biol. Chem.* **271(42)**, 26157-26164 (1996).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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