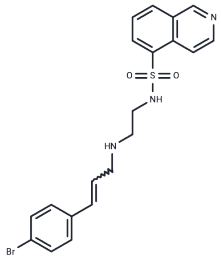
Data Sheet (Cat.No.T11524)

TargetMol

H-89

Chemical Properties



CAS No. : 127243-85-0

Formula: C20H20BrN3O2S

Molecular Weight: 446.36

Storage: Store at low temperature
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	H-89 is a selective and potent protein kinase A inhibitor (IC50: 48 nM), a candidate cardioprotectant, induces spatial learning impairment in rats, and can be used to study myocardial infarction.
Targets(IC50)	Autophagy,PKA
In vitro	Pretreatment of PC12D cells with H-89 (30 μM) significantly inhibited cAMP-dependent histone IIb phosphorylation activity in cell lysates, but did not affect other protein phosphorylation activities [1]; in rat skin EDL fibers , H-89 (10 μM) only slightly inhibited the force response to depolarization; H-89 (1-2 μM) significantly slowed the re-excitation rate in rat skin EDL fibers, most likely because of its Deleteriously affects the T system potential; H-89 (10-100 μM) also inhibits the net uptake of Ca2+ by SR. [2]
In vivo	b>METHODS: H-89 (0.05, 0.1, 0.2 mg/100 g, intraperitoneal injection) was used 30 minutes before the infusion of pentylene tetrazolium (PTZ) in mice to study the effect of H-89 on Bucladesine-induced epileptic activity in PTZ-treated mice. **RESULTS**: H-89 (0.2 mg/100 g) significantly increased the seizure latency and threshold of PTZ-treated animals; H-89 (0.05, 0.2 mg/100 g) blocked the epileptogenic activity of Bucladesine and significantly increased the seizure latency and seizure threshold. [3]

Solubility Information

Solubility	DMSO: 72 mg/mL (161.3 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (4.48 mM),Sonication is recommended. *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.2403 mL	11.2017 mL	22.4034 mL
5 mM	0.4481 mL	2.2403 mL	4.4807 mL
10 mM	0.224 mL	1.1202 mL	2.2403 mL
50 mM	0.0448 mL	0.224 mL	0.4481 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

Chijiwa T, et al. Inhibition of forskolin-induced neurite outgrowth and protein phosphorylation by a newly synthesized selective inhibitor of cyclic AMP-dependent protein kinase, N-[2-(p-bromocinnamylamino)ethyl]-5-isoquinolinesulfonamide (H-89), of PC12D pheochromocytoma cells. J Biol Chem. 1990 Mar 25;265(9):5267-72.
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Blazev R, et al. Effects of the PKA inhibitor H-89 on excitation-contraction coupling in skinned and intact skeletal muscle fibres. J Muscle Res Cell Motil. 2001;22(3):277-86.
Yu Z, Kong D, Liang Y, et al. Protective effects of VMY-2-95 on corticosterone-induced injuries in mice and cellular models. Acta Pharmaceutica Sinica B. 2021
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Ma L, Gong F, Xu J, et al. Uncarboxylated osteocalcin reverses the high glucose-induced inhibition of the osteogenic differentiation of MC3T3E1 cells via the GPRC6A/cAMP/PKA/AMPK signaling pathway. International Journal of Molecular Medicine. 2021 May;47(5):91. doi: 10.3892/ijmm.2021.4924. Epub 2021 Mar 31.
Ma L, Gong F, Xu J, et al. Uncarboxylated osteocalcin reverses the high glucose-induced inhibition of the osteogenic differentiation of MC3T3E1 cells via the GPRC6A/cAMP/PKA/AMPK signaling pathway[J]. International Journal of Molecular Medicine. 2021, 47(5): 1-11