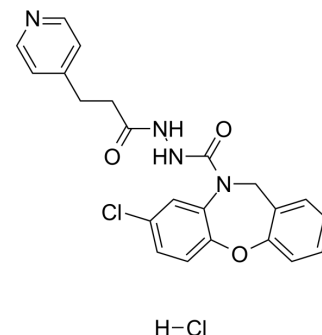


SC 51089

Cat. No.:	HY-108563
CAS No.:	146033-02-5
Molecular Formula:	C ₂₂ H ₂₀ Cl ₂ N ₄ O ₃
Molecular Weight:	459.33
Target:	Prostaglandin Receptor
Pathway:	GPCR/G Protein
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (217.71 mM; ultrasonic and warming and heat to 60°C)

Preparing Stock Solutions	Solvent Concentration	Mass		
		1 mg	5 mg	10 mg
	1 mM	2.1771 mL	10.8854 mL	21.7708 mL
	5 mM	0.4354 mL	2.1771 mL	4.3542 mL
	10 mM	0.2177 mL	1.0885 mL	2.1771 mL

Please refer to the solubility information to select the appropriate solvent.

BIOLOGICAL ACTIVITY

Description

SC 51089 is a selective antagonist of prostaglandin E₂ EP1 receptor, with K_is of 1.3, 11.2, 17.5, and 61.1 μM for EP1, TP, EP3, and FP receptors, respectively. SC 51089 exhibits neuroprotective activity^{[1][2][3]}.

IC₅₀ & Target

EP1	EP1 1.3 μM (Ki)	TP 11.2 μM (Ki)	EP3 17.5 μM (Ki)
FP	61.1 μM (Ki)		

In Vitro

SC 51089 (5 μM; 24 h) attenuates prostaglandin E₂ (PGE₂)-induced the death of neuronal cells exposed to t-BuOOH^[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

In Vivo

SC 51089 (40 μg/kg; infused i.p. for 28 d) ameliorates motor coordination and balance dysfunction and rescues long-term memory deficit in R6/1 mouse model of HD^[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	R6/1 mouse model of Huntington's disease (HD), from 13 to 18 weeks of age ^[3]
Dosage:	40 µg/kg/day
Administration:	Infused i.p. at a rate of 0.11 µL/h during 28 days by osmotic mini-pump system
Result:	Ameliorated motor coordination and balance dysfunction. Rescued long-term memory deficit. Improved the expression of specific synaptic markers. Reduced the number of huntingtin nuclear inclusions in the striatum and hippocampus.

REFERENCES

- [1]. Abramovitz M, et, al. The utilization of recombinant prostanoid receptors to determine the affinities and selectivities of prostaglandins and related analogs. *Biochim Biophys Acta*. 2000 Jan 17;1483(2):285-93.
- [2]. Saleem S, et, al. Effects of EP1 receptor on cerebral blood flow in the middle cerebral artery occlusion model of stroke in mice. *J Neurosci Res*. 2007 Aug 15;85(11):2433-40.
- [3]. Anglada-Huguet M, et, al. Prostaglandin E2 EP1 receptor antagonist improves motor deficits and rescues memory decline in R6/1 mouse model of Huntington's disease. *Mol Neurobiol*. 2014 Apr;49(2):784-95.

Caution: Product has not been fully validated for medical applications. For research use only.

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