S0859

Cat. No.: HY-15529

CAS No.: 1019331-10-2

Molecular Formula: $C_{29}H_{24}ClN_3O_3S$

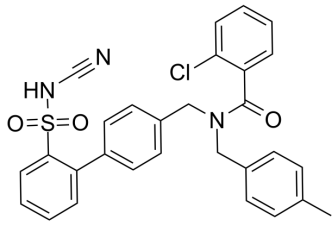
Molecular Weight: 530.04

Target: Na+/HCO3- Cotransporter

Pathway: Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	2 years
	-20°C	1 year



SOLVENT & SOLUBILITY

In Vitro

DMSO : ≥ 100 mg/mL (188.67 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	1.8867 mL	9.4333 mL	18.8665 mL
	5 mM	0.3773 mL	1.8867 mL	3.7733 mL
	10 mM	0.1887 mL	0.9433 mL	1.8867 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline
   Solubility: ≥ 2.5 mg/mL (4.72 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (4.72 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.72 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

S0859 is a selective, high-affinity generic Na^+/HCO_3^- transporter (NBC) inhibitor. S0859 reversibly inhibits NBC-mediated intracellular pH (pHi) recovery (K_i=1.7 μM, full inhibition at approximately 30 μM).

IC_{50} & Target

NBC[1]

In Vitro

Treatment with NBC inhibitor S0859 significantly increased caspase-3 activity and elevated the number of apoptotic EC.

S0859 is potentially important for probing the transporter's functional role in heart and other tissues[1].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Larsen AM, Krogsgaard-Larsen N, Lauritzen G, et al. Gram-scale solution-phase synthesis of selective sodium bicarbonate co-transport inhibitor S0859: in vitro efficacy studies in breast cancer cells. ChemMedChem. 2012 Oct;7(10):1808-14.

[2]. Lauritzen G, Stock CM, Lemaire J, et al. The Na+/H+ exchanger NHE1, but not the Na+, HCO3(-) cotransporter NBCn1, regulates motility of MCF7 breast cancer cells expressing constitutively active ErbB2. Cancer Lett. 2012 Apr 28;317(2):172-83.

[3]. Kumar S, Flacke JP, Kostin S, et al. SLC4A7 sodium bicarbonate co-transporter controls mitochondrial apoptosis in ischaemic coronary endothelial cells. Cardiovasc Res. 2011 Feb 1;89(2):392-400.

[4]. Ch'en FF, Villafuerte FC, Swietach P, et al. S0859, an N-cyanosulphonamide inhibitor of sodium-bicarbonate cotransport in the heart. Br J Pharmacol. 2008 Mar;153(5):972-82.

Tel: 609-228-6898 Fax: 609-228-5909 E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA