Azosemide

Cat. No.: HY-107321

CAS No.: 27589-33-9

Molecular Formula: $C_{12}H_{11}ClN_6O_2S_2$

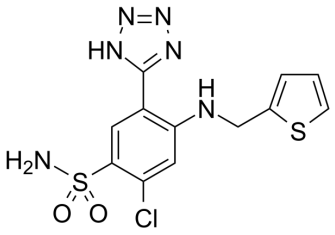
Molecular Weight: 370.84

Target: NKCC

Pathway: Membrane Transporter/Ion Channel

Storage:

Powder	-20°C	3 years
	4°C	2 years
In solvent	-80°C	6 months
	-20°C	1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (674.15 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	2.6966 mL	13.4829 mL	26.9658 mL
	5 mM	0.5393 mL	2.6966 mL	5.3932 mL
	10 mM	0.2697 mL	1.3483 mL	2.6966 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: ≥ 2.17 mg/mL (5.85 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.17 mg/mL (5.85 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.08 mg/mL (5.61 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Azosemide, a sulfonamide loop diuretic, is a potent NKCC1 inhibitor with IC_{50}s of 0.246 μM and 0.197 μM for hNKCC1A and NKCC1B, respectively[1].

IC_{50} & Target

IC50: 0.246 μM (hNKCC1A) and 0.197 μM (NKCC1B)[1]

In Vitro

Azosemide inhibits the sodium-potassium-chloride-cotransporter human variants hNKCC1A and hNKCC1B[1].

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

In Vivo

Azosemide shows a smaller AUC (81.9% decrease), shorter terminal half-life (50.9% decrease) and MRT (64.1% decrease), faster CL (454% increase), CLR (853% increase) and CLNR (307% increase) for NARs[2].

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

Animal Model:	Male Sprague-Dawley rats (control rats, weighing 310345 g) and NARs (weighing 220315 g) of 9 weeks of age[2]
Dosage:	10 mg/kg (Pharmacokinetic Analysis)
Administration:	Infused over 1 min via the jugular vein (i.v.)
Result:	Showed a smaller AUC (81.9% decrease), shorter terminal half-life (50.9% decrease) and MRT (64.1% decrease), faster CL (454% increase), CLR (853% increase) and CLNR (307% increase) for NARs.

CUSTOMER VALIDATION

- J Exp Med. 2023 Mar 6;220(3):e20211827.
- J Pharmaceut Biomed. 2020, 113870.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Hampel P, et al. Azosemide is more potent than bumetanide and various other loop diuretics to inhibit the sodium-potassium-chloride-cotransporter human variants hNKCC1A and hNKCC1B. Sci Rep. 2018 Jun 29;8(1):9877.

[2]. Kim EJ, et al. Pharmacokinetics and pharmacodynamics of intravenous azosemide in mutant Nagaseanalbuminemic rats. Drug Metab Dispos. 2003 Feb;31(2):194-201.

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