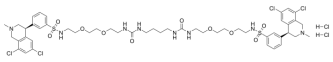
Tenapanor hydrochloride

Cat. No.:	HY-15991A
CAS No.:	1234365-97-9
Molecular Formula:	$C_{50}H_{68}Cl_6N_8O_{10}S_2$
Molecular Weight:	1217.97
Target:	Na+/H+ Exchanger (NHE)
Pathway:	Membrane Transporter/Ion Channel
Storage:	4°C, sealed storage, away from moisture and light * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture and light)



SOLVENT & SOLUBILITY

In Vitro

DMSO : 100 mg/mL (82.10 mM; Need ultrasonic)

H_2O : 20 mg/mL (16.42 mM; Need ultrasonic)

Preparing Stock Solutions

Concentration \ Solvent \ Mass	1 mg	5 mg	10 mg
1 mM	0.8210 mL	4.1052 mL	8.2104 mL
5 mM	0.1642 mL	0.8210 mL	1.6421 mL
10 mM	0.0821 mL	0.4105 mL	0.8210 mL

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

BIOLOGICAL ACTIVITY

Description

Tenapanor (AZD1722) hydrochloride is a potent and orally active sodium/hydrogen exchanger isoform 3 (NHE3) inhibitor. Tenapanor hydrochloride reduces intestinal phosphate absorption predominantly through reduction of passive paracellular phosphate flux. Tenapanor hydrochloride has the potential for the research of hyperphosphatemia[1][2].

In Vivo

Tenapanor hydrochloride (0.15, 0.5 mg/kg; p.o.) reduces passive paracellular phosphate absorption in rats[1].

Tenapanor hydrochloride (0.15 mg/kg; p.o.; twice-daily for 11 consecutive days) increases the reduction in urinary phosphorus excretion in rats[2].

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

Animal Model:	Rats (intestinal loop model)[1]
Dosage:	0.15, 0.5 mg/kg
Administration:	P.o.

Result:	Reduced passive paracellular phosphate absorption by reduced urinary phosphate and sodium excretion after the high-phosphate meal and increased sodium and phosphate delivery to the cecum.

Animal Model:	8 weeks, 250 g male Sprague–Dawley rats[2]
Dosage:	0.15 mg/kg in combination with sevelamer (0%, 0.75%, 1.5%, and 3% (wt/wt))
Administration:	Oral gavage; twice-daily for 11 consecutive days
Result:	Significantly augmented the reduction in urinary phosphorus excretion.

CUSTOMER VALIDATION

- J Exp Med. 2021 Nov 1;218(11):e20210479.
- JCI Insight. 2021 Jun 8;6(11):147699.
- J Virol. 2022 Nov 7;e0147322.
- Vet Microbiol. 27 October 2021, 109263.

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REFERENCES

[1]. King AJ, et al. Inhibition of sodium/hydrogen exchanger 3 in the gastrointestinal tract by tenapanor reduces paracellular phosphate permeability. Sci Transl Med. 2018 Aug 29;10(456):eaam6474.

[2]. King AJ, et al. Combination treatment with tenapanor and sevelamer synergistically reduces urinary phosphorus excretion in rats. Am J Physiol Renal Physiol. 2021 Jan 1;320(1):F133-F144.

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