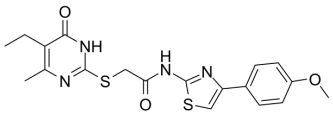
T16Ainh-A01

Cat. No.:	HY-100612
CAS No.:	552309-42-9
Molecular Formula:	$C_{19}H_{20}N_4O_3S_2$
Molecular Weight:	416.52
Target:	Chloride Channel
Pathway:	Membrane Transporter/Ion Channel
Storage:	Powder -20°C 3 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 83.33 mg/mL (200.06 mM; Need ultrasonic)

DMF : ≥ 10 mg/mL (24.01 mM)

* "≥" means soluble, but saturation unknown.

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.4008 mL	12.0042 mL	24.0085 mL
5 mM	0.4802 mL	2.4008 mL	4.8017 mL
10 mM	0.2401 mL	1.2004 mL	2.4008 mL

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

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (4.99 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

T16Ainh-A01, an aminophenylthiazole, is a potent transmembrane protein 16A (TMEM16A) inhibitor, inhibiting TMEM16A-mediated chloride currents with an IC_{50} value of ~1 μM. TMEM16A (ANO1) functions as a calcium-activated chloride channel (CaCC)[1][2].

IC_{50} & Target

TMEM16A[1].

In Vitro

T16Ainh-A01 (0.3-30 μM) significantly reduces both inward and outward components of I_{ClCa}, and inhibits I_{ClCa} in RUICC without significantly affecting L-type Ca^{2+} current[1].

T16Ainh-A01 (10 μM) inhibits nearly completely TMEM16A chloride current (induced by 275 nM free calcium in the pipette) at all voltages, indicating a voltage-independent block mechanism[2].

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

CUSTOMER VALIDATION

- Br J Pharmacol. 2021 Dec 27.
- Biomedicines. 2022, 10(11), 2760

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Fedigan S, et al. Effects of new-generation TMEM16A inhibitors on calcium-activated chloride currents in rabbit urethral interstitial cells of Cajal. Pflugers Arch. 2017 Nov;469(11):1443-1455.

[2]. Namkung W, et al. TMEM16A inhibitors reveal TMEM16A as a minor component of calcium-activated chloride channel conductance in airway and intestinal epithelial cells. J Biol Chem. 2011 Jan 21;286(3):2365-74.

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