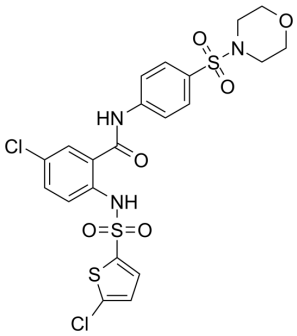
Ataciguat

Cat. No.:	HY-17500
CAS No.:	254877-67-3
Molecular Formula:	$C_{21}H_{19}Cl_2N_3O_6S_3$
Molecular Weight:	576.49
Target:	Guanylate Cyclase
Pathway:	GPCR/G Protein
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 : 100 mg/mL (173.46 mM; Need ultrasonic)

Preparing Stock Solutions	Solvent / Mass / Concentration	1 mg	5 mg	10 mg
	1 mM	1.7346 mL	8.6732 mL	17.3464 mL
	5 mM	0.3469 mL	1.7346 mL	3.4693 mL
	10 mM	0.1735 mL	0.8673 mL	1.7346 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 (4.34 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (4.34 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Ataciguat (HMR-1766) is a nitric oxide-independent soluble guanylate cyclase (sGC) activator. Ataciguat is able to activate the ferric heme-iron redox form of sGC that stimulate the production of cyclic GMP (cGMP). Ataciguat exhibits vasodilator effects[1][2][3].

IC_{50} & Target

soluble guanylate cyclase[1]

In Vitro

Ataciguat (1-100 μM) induces the relaxation in aortic rings or coronary rings[2].
Ataciguat (0.1-10 μM; 30 min) increases NO production in HUVEC cells[2].
Ataciguat (1 nM-100 μM) induces concentration-dependent relaxations in sphincter of Oddi (SO) rings pre-contracted by Carbachol[3].

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

REFERENCES

[1]. Schindler U, et, al. Biochemistry and pharmacology of novel anthranilic acid derivatives activating heme-oxidized soluble guanylyl cyclase. Mol Pharmacol. 2006 Apr;69(4):1260-8.

[2]. Martinelli AM, et, al. In Endothelial Cells, the Activation or Stimulation of Soluble Guanylyl Cyclase Induces the Nitric Oxide Production by a Mechanism Dependent of Nitric Oxide Synthase Activation. J Pharm Pharm Sci. 2018;21(1):38-45.

[3]. Çakmak E, et, al. Comparative Relaxant Effects of Ataciguat and Zaprinast on Sheep Sphincter of Oddi. Balkan Med J. 2016 Jul;33(4):453-7.

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