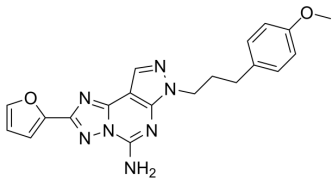
SCH442416

Cat. No.:	HY-103169
CAS No.:	316173-57-6
Molecular Formula:	$C_{20}H_{19}N_7O_2$
Molecular Weight:	389.41
Target:	Adenosine Receptor
Pathway:	GPCR/G Protein
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 : 62.5 mg/mL (160.50 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5680 mL	12.8399 mL	25.6799 mL
5 mM	0.5136 mL	2.5680 mL	5.1360 mL
10 mM	0.2568 mL	1.2840 mL	2.5680 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: 0.2 mg/mL (0.51 mM); Clear solution; Need ultrasonic
2. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 0.2 mg/mL (0.51 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

SCH442416 is a potent, selective and brain-penetrant antagonist of adenosine A_{2A} receptor ($A_{2A}R$), with K_is of 0.048 and 0.5 nM for human and rat $A_{2A}R$ respectively. SCH442416 displays more than 23000-fold selectivity over A_1R, $A_{2B}R$, and A_3R (K_i =1111, 10000, and 10000 nM, respectively). SCH442416 can be used for imaging of adenosine A_{2A} receptors in rat and primate brain[1][2].

IC_{50} & Target

IC50: 0.048 nM (hA2AR), 0.5 nM (rA2AR)[1]

In Vitro

SCH442416 is selective for $A_{2A}R$ (K_i=0.50 nM) in rat striatal membranes over A_1R and A_3R (K_i=1815 and >10000, respectively)[1].

SCH442416 (0.1-10 μM) increases the glutamine synthetase (GS) and glutamate aspartate transporter (GLAST) proteins

	expression of Müller cells in Group 1 μM[5]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	SCH-442416 (0.017 mg/kg; i.p.) completely abrogates the CGS-21680-induced decrease in skeletal muscle injury[3]. SCH-442416 (1 μM•2μL; i.v.) increases the GS and GLAST protein expression in rats[5]. SCH442416 (1 μM) significantly attenuates the adenosine-induced dilation (from 15.3 to 5.6 μm)[4]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

CUSTOMER VALIDATION

- Chem Eng J. 15 December 2022, 138139.

See more customer validations on www.MedChemExpress.com

REFERENCES

[1]. Todde S, et, al. Design, radiosynthesis, and biodistribution of a new potent and selective ligand for in vivo imaging of the adenosine A(2A) receptor system using positron emission tomography. J Med Chem. 2000 Nov 16;43(23):4359-62.

[2]. Moresco RM, et, al. In vivo imaging of adenosine A2A receptors in rat and primate brain using [11C]SCH442416. Eur J Nucl Med Mol Imaging. 2005 Apr;32(4):405-13.

[3]. Zheng J, et, al. Protective roles of adenosine A1, A2A, and A3 receptors in skeletal muscle ischemia and reperfusion injury. Am J Physiol Heart Circ Physiol. 2007 Dec;293(6):H3685-91.

[4]. Maimon N, et, al. Pre-exposure to adenosine, acting via A(2A) receptors on endothelial cells, alters the protein kinase A dependence of adenosine-induced dilation in skeletal muscle resistance arterioles. J Physiol. 2014 Jun 15;592(12):2575-90.

[5]. Yu J, et, al. A 2A R Antagonists Upregulate Expression of GS and GLAST in Rat Hypoxia Model. Biomed Res Int. 2020 Oct 26;2020:2054293.

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