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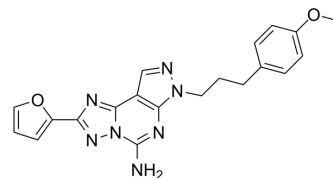
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SCH442416

Cat. No.:	HY-103169
CAS No.:	316173-57-6
Molecular Formula:	C ₂₀ H ₁₉ N ₇ O 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 Concentration	Mass	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 _i s of 0.048 and 0.5 nM for human and rat A _{2A} R respectively. SCH442416 displays more than 23000-fold selectivity over A ₁ R, A _{2B} R, and A ₃ R (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	IC ₅₀ : 0.048 nM (hA _{2A} R), 0.5 nM (rA _{2A} R) ^[1]
In Vitro	SCH442416 is selective for A _{2A} R (K _i =0.50 nM) in rat striatal membranes over A ₁ R and A ₃ R (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 •2 μL ; 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.

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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.
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Caution: Product has not been fully validated for medical applications. For research use only.

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