Product Data Sheet

Product Name: Sch412348
Cat. No.: GC31246

Chemical Properties

Cas. No.	377727-26-9		
SMILES	NC1=NC(N(CCN2CCN(C3=CC=C(F)C=C3F)CC2)N=C4)=C4C5=NC(C6=CC=CO6)=NN15		
Formula	$C_{22}H_{21}F_2N_9O$	M.Wt	465.46
Solubility	Soluble in DMSO	Storage	Store at -20°C
General tips	For obtaining a higher solubility , please warm the tube at 37 ℃ and shake it in the ultrasonic bath for a while.Stock solution can be stored below -20℃ for several months.		
Shipping Condition	Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.		
Structure	Sch412348		

Protocol

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

Product Data Sheet

Kinase experiment:	Receptor binding is performed using membranes prepared from cells with recombinant expression of adenosine receptors as follows: human A2A and HEK 293, rat A2A and Chinese hamster ovary, human and rat A1 and Chinese hamster ovary, and human A3 and HEK 293. Radioligand competition binding assays are performed in 96-well plates in a total assay volume of 200 µL using a final test drug concentration range of between 0.1 and 3 µM. Membranes are diluted in assay buffer, pH 7.4 (A1 and A2A, Dulbecco's phosphate-buffered saline with 10 mM $MgCl_2$; A3, 50 mM Tris-HCl, 120 mM NaCl, 10 mM $MgCl_2$). To remove endogenous adenosine from the membrane preparations, 4 U/mL adenosine deaminase is added to the membranes, which are then incubated at room temperature for 15 min. Radioligand is added to a final concentration of 0.5 ([3H]SCH 58261, A2A), 1 ([3H]DPCPX, A1), or 0.25 ([125I]AB-MECA, A3) nM. Nonspecific binding is defined by adding 100 nM CGS 15923 (A2A), 100 nM NECA (A1), or 100 nM DPCPX (A3). Plates are incubated at room temperature with agitation for 1.5 h (A2A and A1) or 2 h (A3). Membranes are filtered onto Packard GF-B filter plates and washed in ice-cold assay buffer using a Brandel cell harvester to separate bound and free radioligand. The plates are dried before addition of 45 µL of Microscint 20 to each well. IC50 values are determining by fitting the displacement curves using an iterative curve-fitting program. Ki values are calculated using the Cheng-Prusoff equation[1].
Animal experiment:	Rats[1] Male CD rats weighing 200 to 240 g are used for catalepsy and hypolocomotion studies. Sch412348 is administered orally in 50% polyethylene glycol 400 at a dose volume of 3 to 5 mL/kg. Sch412348 is administered in a volume of 1 mL/kg s.c.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA

References:

[1]. Hodgson RA, et al. Characterization of the potent and highly selective A2A receptor antagonists preladenant and SCH 412348 [7-[2-[4-2,4-difluorophenyl]-1-piperazinyl]ethyl]-2-(2-furanyl)-7H-pyrazolo[4,3-e][1,2,4]triazolo[1,5-c]pyrimidin-5-amine] in rodent models of movement disorders and depression. J Pharmacol Exp Ther. 2009 Jul;330(1):294-303.

Background

Sch412348 is a potent competitive antagonist of the human adenosine A2A receptor (Ki=0.6 nM) and has >1000-fold selectivity over all other adenosine receptors.

Sch412348 (SCH 412348) also completely antagonizes cAMP in cells expressing the recombinant human A2A receptor. Sch412348 is determined to have KB values of 0.3 nM, respectively at the A2A receptor; the value are in good agreement with the Ki values determined in radioligand binding assays. A similar functional assay with A2B receptor-expressing cells is used to demonstrate selectivity over A2B receptors. In this assay, the KB value for Sch412348 is 273 nM,

indicating that Sch412348 is 910-fold selective for the A2A receptor over the A2B receptor[1].

Oral administration of Sch412348 (0.1-1 mg/kg) to rats potentiates 3,4-dihydroxy-L-phenylalanine (L-Dopa)-induced contralateral rotations after 6-hydroxydopamine lesions in the medial forebrain bundle and potently attenuates the cataleptic effects of haloperidol. Sch412348 (1 and 3 mg/kg) dose-dependently attenuates haloperidol-induced catalepsy 1 h [F(3,20)=3.9, p

[1]. Hodgson RA, et al. Characterization of the potent and highly selective A2A receptor antagonists preladenant and SCH 412348 [7-[2-[4-2,4-difluorophenyl]-1-piperazinyl]ethyl]-2-(2-furanyl)-7H-pyrazolo[4,3-e][1,2,4]triazolo[1,5-c]pyrimidin-5-amine] in rodent models of movement disorders and depression. J Pharmacol Exp Ther. 2009 Jul;330(1):294-303.

Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com
Address: 10292 Central Ave. #205, Montclair, CA, USA