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DATASHEET

ZM 241385

Product overview

Name	ZM 241385
Cat No	HB2096
Alternative names	ZM241385
Biological action	Antagonist
Purity	>99%
Description	Potent, selective A_{2A} receptor antagonist

Images

Biological Data

Biological description

ZM 241385 is a potent, selective adenosine A_{2A} receptor inverse agonist (K_i values are <1, 50, 255 nM and >10 µM at A_{2A}, A_{2B}, A_1 and A_3 receptors respectively).
The crystal structure of the human A_{2A} receptor was determined in complex with ZM 241385.

Activation of the A_{2A} receptor enhances the release of glutamate, dopamine and acetylcholine and also inhibits GABA release.

The $A_{2A}R$ has been shown to interact with various receptors including the $mGlu_5$, D2R, A1R and CB1 receptors.

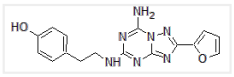
A_{2A} receptor activation modulates synaptic plasticity and neuronal excitability.

ZM 241385 is active *in vivo*.

Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in DMSO (100 mM) and in ethanol (5 mM)
Important	This product is for RESEARCH USE ONLY and is not intended for therapeutic or diagnostic use. Not for human or veterinary use.

Chemical Data

Chemical name	4-(2-[7-Amino-2-(2-furyl)[1,2,4]tri azolo[2,3-*a*][1,3,5]triazin-5-ylamino]ethyl)phenol
Molecular Weight	337.34
Chemical structure	
Molecular Formula	$C_{16}H_{15}N_7O_2$
CAS Number	139180-30-6
PubChem identifier	176407
SMILES	C1=COC(=C1)C2=NN3C(=NC(=NC3=N2)NCCC4=CC=C(C=C4)O)N
Source	Synthetic
InChi	InChI=1S/C16H15N7O2/c17-14-20-15(18-8-7-10-3-5-11(24)6-4-10)21-16-19-13(22-23(14)16)12-2-1-9-25-12/h1-6,9,24H,7-8H2,(H3,17,18,19,20,21,22)
InChiKey	PWTBZOIUWZOPFT-UHFFFAOYSA-N
MDL number	MFCD00908394
Appearance	White solid

References

The 2.6 angstrom crystal structure of a human A2A adenosine receptor bound to an antagonist.

Jaakola et al (2008) Science 322 (5905)
PubMedID 18832607

Adenosine A(2A) receptors in psychopharmacology: modulators of behavior, mood and cognition.

Shen and Chen (2009) Curr Neuropharmacol. 7(3)
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In vivo characterisation of ZM 241385, a selective adenosine A2A receptor antagonist.

Keddie et al (1996) Eur J Pharmacol 301(1-3)
PubMedID 8773453

The in vitro pharmacology of ZM 241385, a potent, non-xanthine A2a selective adenosine receptor antagonist.

Poucher et al (1995) Br J Pharmacol 115(6)
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Comparison of CGS 15943, ZM 241385 and SCH 58261 as antagonists at human adenosine receptors.

Ongini et al (1999) Naunyn Schmiedebergs Arch Pharmacol. 359(1)
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