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DATASHEET

DPCPX

Product overview

Name	DPCPX
Cat No	HB2094
Biological action	Antagonist
Purity	>98%
Description	Potent, selective A ₁ receptor inverse agonist

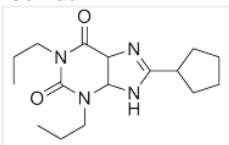
Biological Data

Biological description	DPCPX is a potent and selective A ₁ adenosine receptor inverse agonist (K _i values are 0.45 and 300 nM at A ₁ and A ₂ receptors respectively). Active <i>in vivo</i> . DPCPX facilitates long term potentiation (LTP) and blocks induction of long term depression (LTD).
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Solubility & Handling

Storage instructions	Room temperature
Solubility overview	Soluble in DMSO (5 mM) and in ethanol (10 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	8-Cyclopentyl-1,3-dipropylxanthine
Molecular Weight	304.39
Chemical structure	
Molecular Formula	C ₁₆ H ₂₄ N ₄ O ₂
CAS Number	102146-07-6
PubChem identifier	1329
SMILES	CCCN1C2=C(C(=O)N(C1=O)CCC)NC(=N2)C3CCCC3
Source	Synthetic
InChi	InChI=1S/C16H24N4O2/c1-3-9-19-14-12(15(21)20(10-4-2)16(19)22)17-13(18-14)11-7-5-6-8-11/h11 H,3-10H2,1-2H3,(H,17,18)
InChiKey	FFBDFADSZUINTG-UHFFFAOYSA-N
MDL number	MFCD00055117
Appearance	White solid

References

Effects of 1,3-dipropyl-8-cyclopentylxanthine (DPCPX), a highly selective adenosine receptor antagonist, on force of

contraction in guinea-pig atrial and ventricular cardiac preparations.

von der Leyen et al (1989) Naunyn Schmiedebergs Arch Pharmacol. 340(2)

PubMedID [2554151](#)

8-Cyclopentyl-1,3-dipropylxanthine (DPCPX)--a selective high affinity antagonist radioligand for A1 adenosine receptors.

Lohse et al (1987) Naunyn Schmiedebergs Arch Pharmacol. 336(2)

PubMedID [2825043](#)

Caffeine, adenosine receptors, and synaptic plasticity.

Costenla et al (2010) J Alzheimers Dis 1

PubMedID [20182030](#)

Activation of receptors negatively coupled to adenylate cyclase is required for induction of long-term synaptic depression at Schaffer collateral-CA1 synapses.

Santschi et al (2006) J Neurobiol 66(3)

PubMedID [16329119](#)

ZM241385, DPCPX, MRS1706 are inverse agonists with different relative intrinsic efficacies on constitutively active mutants of the human adenosine A2B receptor.

Li et al (2007) J Pharmacol Exp Ther. 320(2)

PubMedID [17077318](#)
