AB-MECA

Cat. No.: HY-19365

CAS No.: 152918-26-8

Molecular Formula: $C_{18}H_{21}N_7O_4$

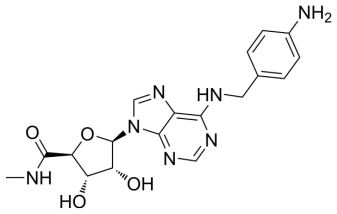
Molecular Weight: 399.4

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 : 55 mg/mL (137.71 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5038 mL	12.5188 mL	25.0376 mL
5 mM	0.5008 mL	2.5038 mL	5.0075 mL
10 mM	0.2504 mL	1.2519 mL	2.5038 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: ≥ 2.75 mg/mL (6.89 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.75 mg/mL (6.89 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.75 mg/mL (6.89 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

AB-MECA is a high affinity A_3 adenosine receptor agonist with a binding K_i of 430.5 nM for human A_3 receptors in CHO cells. AB-MECA can enhance plasma histamine level[1][2][3][4].

IC_{50} & Target

Adenosine A_3 receptor

In Vitro

AB-MECA (1, 10, 100 μM; 24 hours) shows dose-dependent cytotoxicity in human lung cancer cell line A549[2].
[^{125}I]AB-MECA has K_D values for binding to A_3 receptors in transfected CHO cells and in RBL-2H3 cells are 1.48 and 3.61 nM,

respectively[3].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Cell Cytotoxicity Assay[2]

Cell Line:	A549 cell
Concentration:	1, 10, 100 μM
Incubation Time:	24 hours
Result:	Shown dose-dependent cytotoxicity.

In Vivo

AB-MECA (3 ug/kg; iv) enhances plasma histamine level in mouse[4].

AB-MECA (0.3 mg/kg; iv) enhances antigen-induced bronchoconstriction in male albino guinea pigs, weighing 180-220 g[5].

MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Male Balb/c mice, weighing 18-25 g[4]
Dosage:	3 ug/kg
Administration:	IV; single dose
Result:	Induced a 5.9-fold increase in histamine levels in murine plasma.

REFERENCES

[1]. Solanki, N. D., et al. In Vitro Evaluation Of Anti-Cancer Potential Of A3 Adenosine Receptor Agonist On A549 Human Lung Cancer Cell Line. Int J Pharm Pharm Sci ; 2019 Jun; 11(6): 106-108.

[2]. X D Ji, et al. A selective agonist affinity label for A3 adenosine receptors. Biochem Biophys Res Commun. 1994 Aug 30;203(1):570-6.

[3]. Endre G Mikus, et al. Interaction of SSR161421, a novel specific adenosine A(3) receptor antagonist with adenosine A(3) receptor agonists both in vitro and in vivo. Eur J Pharmacol. 2013 Jan 15;699(1-3):62-6.

[4]. Endre G Mikus, et al. Evaluation of SSR161421, a novel orally active adenosine A3 receptor antagonist on pharmacology models. Eur J Pharmacol. 2013 Jan 15;699(1-3):172-9.

[5]. L Yates, et al. Radioligand binding and functional responses of ligands for human recombinant adenosine A(3) receptors. Auton Autacoid Pharmacol. 2006 Apr;26(2):191-200.

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