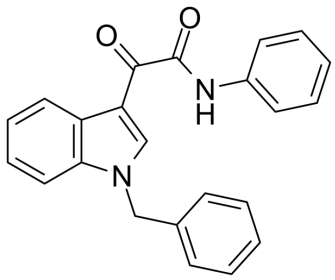
KI-7

Cat. No.:	HY-131032
CAS No.:	1489263-00-4
Molecular Formula:	$C_{23}H_{18}N_2O_2$
Molecular Weight:	354.4
Target:	Adenosine Receptor
Pathway:	GPCR/G Protein
Storage:	Powder -20°C 3 years 4°C 2 years In solvent -80°C 6 months -20°C 1 month



SOLVENT & SOLUBILITY

In Vitro

DMSO : 250 mg/mL (705.42 mM; Need ultrasonic)

Preparing Stock Solutions	Mass / Solvent / Concentration	1 mg	5 mg	10 mg
	1 mM	2.8217 mL	14.1084 mL	28.2167 mL
	5 mM	0.5643 mL	2.8217 mL	5.6433 mL
	10 mM	0.2822 mL	1.4108 mL	2.8217 mL

Please refer to the solubility information to select the appropriate solvent.

In Vivo

1. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.08 mg/mL (5.87 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

KI-7 is an A2B adenosine receptor positive allosteric modulator. KI-7 potentiates the cAMP accumulation induced by the non-selective A2B adenosine receptor agonist NECA (EC_{50}=445.8 nM). KI-7 also potentiates the cAMP accumulation induced by the selective A2B adenosine receptor agonist BAY 60-6583 as well as by adenosine with EC_{50}s of 2390 nM and 2550 nM, respectively[1][2].

In Vitro

KI-7 (1 μM; 5-21 days; mesenchymal stem cells) induces a significant increase in mRNA expression of Runx2 and Osterix[1].
KI-7 (1 μM; 15-21 days) induced a significant increase in cell viability in both differentiation stages[1].
KI-7, as A2B adenosine receptor positive allosteric modulator in MSCs, demonstrating it is able to potentiate the effects of either adenosine and synthetic orthosteric A2B adenosine receptor agonists in mediating osteoblast differentiation in vitro.
NECA, BAY 60-6583 and KI-7 induce a strong increase in IL-6 production. KI-7 is able to potentiate the effects of orthosteric agonists in both differentiation stages, even if the effect became significant only at 21 days[1].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Trincavelli ML, et al. Allosteric modulators of human A2B adenosine receptor. Biochim Biophys Acta. 2014;1840(3):1194-1203.

[2]. Trincavelli ML, et al. Osteoblast differentiation and survival: A role for A2B adenosine receptor allosteric modulators. Biochim Biophys Acta. 2014;1843(12):2957-2966.

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