Regadenoson

Cat. No.: HY-A0168

CAS No.: 313348-27-5

Molecular Formula: $C_{15}H_{18}N_8O_5$

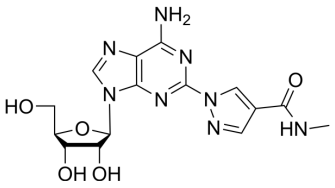
Molecular Weight: 390.35

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 : 50 mg/mL (128.09 mM; Need ultrasonic)

Preparing Stock Solutions

Solvent / Mass / Concentration	1 mg	5 mg	10 mg
1 mM	2.5618 mL	12.8090 mL	25.6180 mL
5 mM	0.5124 mL	2.5618 mL	5.1236 mL
10 mM	0.2562 mL	1.2809 mL	2.5618 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: ≥ 2.5 mg/mL (6.40 mM); Clear solution
2. Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline)
   Solubility: ≥ 2.5 mg/mL (6.40 mM); Clear solution
3. Add each solvent one by one: 10% DMSO >> 90% corn oil
   Solubility: ≥ 2.5 mg/mL (6.40 mM); Clear solution

BIOLOGICAL ACTIVITY

Description

Regadenoson (CVT-3146) is a selective A2A adenosine receptor agonist and vasodilator that increases coronary blood flow, can be used in study of myocardial perfusion imaging. Regadenoson also increases the permeability of the blood-brain barrier (BBB) in rodents, can be used to study increased delivery of agents to the human CNS[1][2].

In Vivo

Regadenoson (0.1, 0.175, 0.25, 0.5, 1.0, 2.5, 5 μg/kg; p.i.v.; single) increases coronary blood flow (CBF) and decreases in mean coronary resistance in a dose-dependent manner, in awake dogs[1].

Regadenoson (2.5 μg/kg; p.i.v.; single in 30 s) increases blood flow of coronary in awake dogs[1].

Regadenoson (0.5 μg/kg; i.v.; single; 60 or 90 min after Temozolomide administration) promotes Temozolomide delivery to CNS of rats[2].

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

Animal Model:	Mongrel dogs (23-27 kg)[1]
Dosage:	0.1, 0.175, 0.25, 0.5, 1.0, 2.5, 5 μg/kg
Administration:	Peripheral intravenous injection; single.
Result:	Increased mean CBF (coronary blood flow) in a dose-dependent manner, with an ED_{50} of 0.34 μg/kg and resulted in a maximal increase of 154 mL/min from baseline (45 mL/min). Caused a dose-dependent decrease in mean coronary resistance with a maximal decrease of 73 and 75 % at 2.5 and 5 μg/kg, respectively.

Animal Model:	Mongrel dogs (23-27 kg)[1]
Dosage:	2.5 μg/kg
Administration:	Peripheral intravenous injection; single in 30 s.
Result:	Reached 84% of the peak reactive hyperemia flow following a 20-s-long coronary occlusion (201 mL/min).

Animal Model:	Female F344 rats (150-170 g)[2]
Dosage:	0.5 μg/kg
Administration:	Intravenous injection; single (60 or 90 min after Temozolomide administration)
Result:	Increaseed levels of Temozolomide by 60 % in normal brain without affecting plasma concentrations.

CUSTOMER VALIDATION

- J Cell Commun Signal. 2024 Feb 14.

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REFERENCES

[1]. Trochu JN, et al. Selective A2A adenosine receptor agonist as a coronary vasodilator in conscious dogs: potential for use in myocardial perfusion imaging. J Cardiovasc Pharmacol. 2003 Jan;41(1):132-9.

[2]. Jackson S, et al. The effect of regadenoson-induced transient disruption of the blood-brain barrier on temozolomide delivery to normal rat brain. J Neurooncol. 2016 Feb;126(3):433-9.

Caution: Product has not been fully validated for medical applications. For research use only.

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