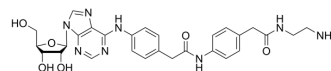


Adenosine amine congener

Cat. No.:	HY-128064		
CAS No.:	96760-69-9		
Molecular Formula:	C ₂₈ H ₃₂ N ₈ O ₆		
Molecular Weight:	576.6		
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 : 31.25 mg/mL (54.20 mM; Need ultrasonic)					
		Solvent Concentration	Mass	1 mg	5 mg	10 mg
	Preparing Stock Solutions	1 mM		1.7343 mL	8.6715 mL	17.3430 mL
		5 mM		0.3469 mL	1.7343 mL	3.4686 mL
10 mM			0.1734 mL	0.8672 mL	1.7343 mL	
Please refer to the solubility information to select the appropriate solvent.						
In Vivo	<ol style="list-style-type: none"> Add each solvent one by one: 10% DMSO >> 40% PEG300 >> 5% Tween-80 >> 45% saline Solubility: ≥ 2.08 mg/mL (3.61 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% (20% SBE-β-CD in saline) Solubility: ≥ 2.08 mg/mL (3.61 mM); Clear solution Add each solvent one by one: 10% DMSO >> 90% corn oil Solubility: ≥ 2.08 mg/mL (3.61 mM); Clear solution 					

BIOLOGICAL ACTIVITY

Description	Adenosine amine congener (ADAC) is a selective A1 adenosine receptor agonist, can ameliorate noise- and Cisplatin-induced cochlear injury. Adenosine amine congener also has neuroprotective effects ^{[1][2]} .
IC₅₀ & Target	A1 adenosine receptor ^{[1][2]}
In Vitro	Adenosine amine congener can reduce oxidative stress in the noise-exposed cochlea, leading to protection of sensory hair cells. Adenosine amine congener also can reduce cisplatin-induced apoptosis in cochlear tissues, particularly in sensory hair

cells and strial marginal cells. The mechanisms of otoprotection by Adenosine amine congener include inhibition of glutamate release via presynaptic A1 receptors and inhibition of voltage-gated Ca²⁺ channels, which can prevent activation of apoptotic and necrotic cell death pathways^[1].

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

In Vivo

Adenosine amine congener (25-300 µg/kg/day; intraperitoneal injection; daily; for 5 days; male Wistar rats) treatment is most effective in the first 24 hours after noise exposure at doses >50 µg/kg, providing up to 21 dB protection. Adenosine amine congener mitigates noise-induced hearing loss in a dose- and time-dependent manner^[1].

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

Animal Model:	Male Wistar rats (8-10 weeks old) treated with noise exposure ^[1]
Dosage:	25 µg/kg/day, 50 µg/kg/day, 100 µg/kg/day, 200 µg/kg/day, and 300 µg/kg/day
Administration:	Intraperitoneal injection; daily; for 5 days
Result:	Most effective in the first 24 hours after noise exposure at doses >50 µg/kg, and provided up to 21 dB protection (averaged across 8-28 kHz).

REFERENCES

[1]. Vlajkovic SM, et al. Adenosine amine congener as a cochlear rescue agent. *Biomed Res Int.* 2014;2014:841489.

[2]. Vlajkovic SM, et al. Adenosine amine congener mitigates noise-induced cochlear injury. *Purinergic Signal.* 2010 Jun;6(2):273-81.

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

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: tech@MedChemExpress.com

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA