



# SZABO SCANDIC

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## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

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### Lieferung & Zahlungsart

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### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

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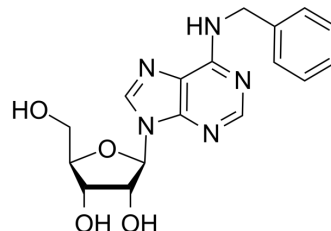
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## N6-Benzyladenosine

Cat. No.:	HY-N7844
CAS No.:	4294-16-0
Molecular Formula:	C <sub>17</sub> H <sub>19</sub> N <sub>5</sub> O <sub>4</sub>
Molecular Weight:	357.36
Target:	Apoptosis; Adenosine Receptor
Pathway:	Apoptosis; GPCR/G Protein
Storage:	4°C, protect from light * In solvent : -80°C, 6 months; -20°C, 1 month (protect from light)



### SOLVENT & SOLUBILITY

#### In Vitro

DMSO : 125 mg/mL (349.79 mM; Need ultrasonic)

Concentration	Mass			
	1 mg	5 mg	10 mg	
1 mM	2.7983 mL	13.9915 mL	27.9830 mL	
5 mM	0.5597 mL	2.7983 mL	5.5966 mL	
10 mM	0.2798 mL	1.3991 mL	2.7983 mL	

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

### BIOLOGICAL ACTIVITY

#### Description

N6-Benzyladenosine is an adenosine receptor agonist, has a cytoactive activity. N6-Benzyladenosine arrests cell cycle at G0/G1 phase and induces cell apoptosis. N6-Benzyladenosine also exerts inhibitory effect on *T. gondii* adenosine kinase and glioma<sup>[1]-[5]</sup>.

#### In Vitro

N6-benzyladenosine suppresses the clonogenic activity and the growth of different neoplastic cells<sup>[2]</sup>.  
 N6-benzyladenosine results cell morphology alteration and actin cytoskeleton disorganization in T24 cell<sup>[2]</sup>.  
 N6-benzyladenosine (10 μM; 24 h) is a potent inducer of apoptosis, and belongs to apoptotic systems with distinct caspase-3 and caspase-9 activation<sup>[3]</sup>.  
 N6-benzyladenosine (0-100 μM; 24 h) induces chromatin condensation, formation of apoptotic bodies, and cleavage of DNA to nucleosomal fragments in a dose-dependent manner<sup>[3]</sup>.  
 N6-benzyladenosine acts as a selective anti-toxoplasma agent with binding affinity to *T. gondii* adenosine kinase (apparent K<sub>m</sub> = 179.8 μM), over human adenosine kinase<sup>[4]</sup>.  
 N6-benzyladenosine (0-50 μM) shows weak inhibition against adenosine kinase deficient (TgAKS3) strains of *Toxoplasma gondii*<sup>[4]</sup>.  
 N6-benzyladenosine (compound 2) (0.3-20 μM) exerts anti-glioma activity by interfering with the mevalonate pathway and inhibiting FPPS (Farnesyl pyrophosphate synthase) <sup>[5]</sup>.  
 MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### Apoptosis Analysis<sup>[3]</sup>

Cell Line:	HL-60
Concentration:	10 $\mu$ M
Incubation Time:	24 hours
Result:	Induced cell apoptosis by increasing caspase-3 (DEVDase) as well as caspase-9 (LEHDase) activity, indicating an apoptotic systems with distinct caspase-3/9 activation.

### Apoptosis Analysis<sup>[5]</sup>

Cell Line:	U87MG human glioma cell line.
Concentration:	0.3, 0.6, 1.2, 2.5, 5, 10, 20 $\mu$ M
Incubation Time:	48 hours
Result:	Inhibited glioma growth by interfering with the mevalonate pathway and inhibiting FPPS.

## REFERENCES

- [1]. Kaminek M, et al. Cytokinin activities of N6-benzyladenosine derivatives hydroxylated on the side-chain phenyl ring. *Journal of Plant Growth Regulation*. 1987. 6(2):113.
- [2]. Castiglioni S, et al. N6-isopentenyladenosine and its analogue N6-benzyladenosine induce cell cycle arrest and apoptosis in bladder carcinoma T24 cells. *Anticancer Agents Med Chem*. 2013 May;13(4):672-8.
- [3]. Mlejnek P. Caspase inhibition and N6-benzyladenosine-induced apoptosis in HL-60 cells. *J Cell Biochem*. 2001;83(4):678-89.
- [4]. Kim YA, et al. Synthesis, biological evaluation and molecular modeling studies of N6-benzyladenosine analogues as potential anti-toxoplasma agents. *Biochem Pharmacol*. 2007 May 15;73(10):1558-72.
- [5]. Grimaldi M, et al. NMR for screening and a biochemical assay: Identification of new FPPS inhibitors exerting anticancer activity. *Bioorg Chem*. 2020 May;98:103449.

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

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