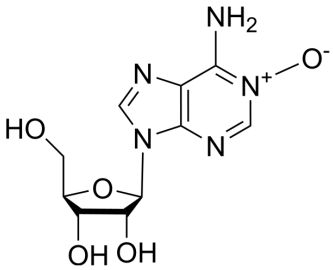
Adenosine N1-oxide

Cat. No.:	HY-102082
CAS No.:	146-92-9
Molecular Formula:	$C_{10}H_{13}N_5O_5$
Molecular Weight:	283.24
Target:	Others
Pathway:	Others
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description

Adenosine N1-oxide is an oral active anti-inflammatory agent, and can be isolated from royal jelly. Adenosine N1-oxide promotes osteogenic and adipocyte differentiation[1][2].

In Vitro

Adenosine N1-oxide)(1-40 μM, 24 h) inhibits TNF-α and IL-6 secretion by RAW264.7 cells stimulated with 2 μg/mL LPS (HY-D1056)[2].

Adenosine N1-oxide)(20/100 μM, 30 mins) increases intracellular cAMP production in both peritoneal macrophages and RAW264.7 cells in a dose-dependent manner[2].

Adenosine N1-oxide)(5-10 μM, 30 mins) increases the protein level of phosphorylation of Akt and GSK-3β in 2 μg/mL LPS (HY-D1056)-stimulated RAW264.7 cells[2].

Adenosine N1-oxide)(2-10 μM, 6-7 days) promotes osteogenic and adipocyte differentiation in MC3T3-E1 cells[2].

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

Western Blot Analysis[2]

Cell Line:	RAW264.7 cells
Concentration:	2, 5 and 10 μM
Incubation Time:	30 mins
Result:	Increased the protein level of phosphorylation of Akt and GSK-3β in 2 μg/mL LPS (HY-D1056)-stimulated RAW264.7 cells.

Cell Differentiation Assay[2]

Cell Line:	MC3T3-E1 cells
Concentration:	2, 5 and 10 μM
Incubation Time:	6-7 days
Result:	Promoted osteogenic and adipocyte differentiation in MC3T3-E1 cells

In Vivo

Adenosine N1-oxide (oral administration, 135 mg/kg for three times) reduces the lethality caused by LPS (HY-D1056)-induced endotoxin shock in BALB/c mice[1].

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

Animal Model:	LPS-induced endotoxin shock in BALB/c mice[1]
Dosage:	135 mg/kg for three times
Administration:	Oral administration
Result:	Reduced the lethality caused by LPS (HY-D1056)-induced endotoxin shock in BALB/c mice.

REFERENCES

[1]. Kohno K, et al. Anti-inflammatory effects of adenosine N1-oxide. J Inflamm (Lond). 2015;12(1):2. Published 2015 Jan 20.

[2]. Ohashi E, et al. Adenosine N1-Oxide Exerts Anti-inflammatory Effects through the PI3K/Akt/GSK-3β Signaling Pathway and Promotes Osteogenic and Adipocyte Differentiation. Biol Pharm Bull. 2019;42(6):968-976.

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