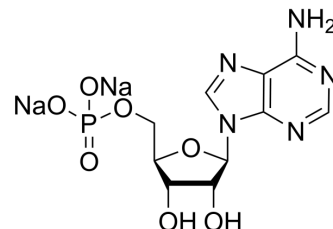


Adenosine 5'-monophosphate disodium

Cat. No.:	HY-W011012
CAS No.:	4578-31-8
Molecular Formula:	C ₁₀ H ₁₂ N ₅ Na ₂ O ₇ P
Molecular Weight:	391.18
Target:	Adenosine Receptor
Pathway:	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

H₂O : 100 mg/mL (255.64 mM; Need ultrasonic)

	Solvent Concentration	Mass	1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM		2.5564 mL	12.7818 mL	25.5637 mL
	5 mM		0.5113 mL	2.5564 mL	5.1127 mL
	10 mM		0.2556 mL	1.2782 mL	2.5564 mL

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

BIOLOGICAL ACTIVITY

Description

Adenosine 5'-monophosphate disodium is an orally active purine nucleotide, and participates in ATP metabolism. Adenosine 5'-monophosphate disodium is also a ligand for adenosine 2B receptor. Adenosine 5'-monophosphate disodium can activate AMPK in skeletal muscle, and ameliorates insulin resistance and impaired glucose metabolism. Adenosine 5'-monophosphate disodium can be used for research of diabetes^{[1][2][3]}.

IC₅₀ & Target

A2BR

In Vivo

Adenosine 5'-monophosphate (10 and 13 mg/L in distilled water, for 25 weeks) disodium improves glucose metabolism in mice with HFD-induced diabetes^[1].
Adenosine 5'-monophosphate (40-800 mg/kg, i.p.) lowers body temperature via the adenosine receptor in mice^[2].
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	C57BL/6 J mice with high-fat diet-induced diabetes ^[1]
Dosage:	10 and 13 mg/L

Administration:	Added in distilled water, for 25 weeks
Result:	Enhanced phosphorylation of AMPK and mRNA levels of genes involved in lipid oxidation in the skeletal muscle.

CUSTOMER VALIDATION

- Theranostics. 2020 Aug 13;10(22):10245-10261.
- Stem Cell Res Ther. 2023 Sep 29;14(1):277.
- Molecules. 2023 Apr 11, 28(8), 3375.
- Genes (Basel). 2022 Dec 16;13(12):2384.
- Research Square Preprint. 2022 May.

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REFERENCES

- [1]. Ardiansyah, et al. Adenosine and adenosine-5'-monophosphate ingestion ameliorates abnormal glucose metabolism in mice fed a high-fat diet. BMC Complement Altern Med. 2018 Nov 14;18(1):304.
- [2]. Steven J. Swoap, et al. AMP does not induce torpor. American Journal of Physiology-Regulatory, Integrative and Comparative Physiology 2007 293:1, R468-R473.
- [3]. Holien JK, et al. AMP and adenosine are both ligands for adenosine 2B receptor signaling. Bioorg Med Chem Lett. 2018 Jan 15;28(2):202-206.

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