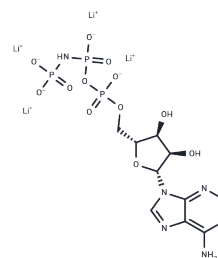


AMP-PNP tetralithium

Chemical Properties

CAS No. :	72957-42-7
Formula:	C ₁₀ H ₁₃ Li ₄ N ₆ O ₁₂ P ₃
Molecular Weight:	529.93
Storage:	Store at low temperature Powder: -20°C for 3 years In solvent: -80°C for 1 year <i>Actual storage temperature shall be subject to the COA.</i>



Biological Description

Description	AMP-PNP tetralithium (Adenylyl-imidodiphosphate tetralithium) is a non-hydrolyzable ATP analog that fully occupies ATP-binding sites without undergoing enzymatic hydrolysis, thereby providing stable and controlled experimental conditions for dissecting ATP-dependent biological processes. AMP-PNP is widely used to investigate enzyme activity, kinase regulation, DNA and RNA metabolism, ion channel function, and protein complex assembly in biochemical and structural biology studies.
Targets(IC50)	Others
In vitro	In biochemical assays targeting the BtuCD-F ATPase, AMP-PNP tetralithium functioned as a competitive inhibitor with an IC ₅₀ ranging from 100 nM to 3.3 mM, effectively eluting the protein from ATP-agarose beads and suppressing enzymatic activity [4].

Solubility Information

Solubility	H ₂ O: 20 mg/mL (37.74 mM), onication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.887 mL	9.4352 mL	18.8704 mL
5 mM	0.3774 mL	1.887 mL	3.7741 mL
10 mM	0.1887 mL	0.9435 mL	1.887 mL
50 mM	0.0377 mL	0.1887 mL	0.3774 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Brady (1985) A novel brain ATPase with properties expected for the fast axonal transport motor. *Nature* 317 73
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- Hehl and Neumcke (1994) KATP channels of mouse skeletal muscle: mechanism of channel blockage by AMP-PNP. *Eur. Biophys. J.* 23 231
- Korkhov VM, et al. Structure of AMP-PNP-bound vitamin B12 transporter BtuCD-F. *Nature*. 2012 Oct 18;490(7420): 367-72.
- Sakharov PA, et al. Nonhydrolyzable ATP analog 5'-adenylyl-imidodiphosphate (AMP-PNP tetralithium) does not inhibit ATP-dependent scanning of leader sequence of mRNA. *Biochemistry (Mosc)*. 2015 Jan;80(1):45-9.
- Ellinghaus TL, et al. Conformational changes in the yeast mitochondrial ABC transporter Atm1 during the transport cycle. *Sci Adv*. 2021 Dec 24;7(52):eabk2392.

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