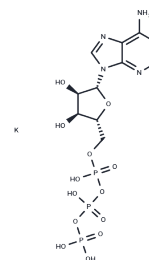


ATP dipotassium

Chemical Properties

CAS No. :	42373-41-1
Formula:	C ₁₀ H ₁₄ K ₂ N ₅ O ₁₃ P ₃
Molecular Weight:	583.36
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	ATP dipotassium (Adenosine 5'-triphosphate dipotassium) is a vital compound involved in energy storage and metabolism within living organisms, supplying metabolic energy for driving pumps and acting as a coenzyme in cellular processes, while also functioning as a significant endogenous signaling molecule contributing to immunity and inflammation.
Targets(IC50)	Others,Endogenous Metabolite
In vitro	Co-treatment of ATP dipotassium (5 mM; 1 hour) with LPS (1 µg/mL) synergistically activates the NLRP3 inflammasome in HGFs[3]. Additionally, ATP dipotassium (2 mM; 0.5-24 hours) facilitates the secretion of IL-1β, KC, and MIP-2 from BMDMs through a mechanism dependent on caspase-1 activation[4]. Furthermore, ATP dipotassium enhances neutrophil chemotaxis in vitro[4].
In vivo	ATP dipotassium (50 mg/kg; i.p.) exhibits protective effects against bacterial (E. coli) infection in four-week-old Kunming mice (18-22 g) by inducing IL-1β, KC, and MIP-2 secretion and recruiting neutrophils in vivo[4]. Administered via intraperitoneal injection at 50 mg/kg prior to E. coli challenge, it effectively safeguards mice from bacterial invasion[4].

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.7142 mL	8.571 mL	17.1421 mL
5 mM	0.3428 mL	1.7142 mL	3.4284 mL
10 mM	0.1714 mL	0.8571 mL	1.7142 mL
50 mM	0.0343 mL	0.1714 mL	0.3428 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

Bonora M, et al. ATP synthesis and storage. *Purinergic Signal*. 2012 Sep;8(3):343-57.

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Shuo Xu, et al. Doxycycline inhibits NAcT Leucine-rich repeat Protein 3 inflammasome activation and interleukin-1 β production induced by Porphyromonas gingivalis-lipopolysaccharide and adenosine triphosphate in human gingival fibroblasts. *Arch Oral Biol*. 2019 Nov;107:104514.

Yang Xiang, et al. Adenosine-5'-Triphosphate (ATP) Protects Mice against Bacterial Infection by Activation of the NLRP3 Inflammasome. *PLoS One*. 2013; 8(5): e63759.

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