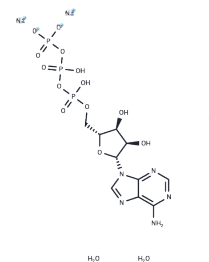


## ATP disodium trihydrate

### Chemical Properties

CAS No. : 51963-61-2  
 Formula: C<sub>10</sub>H<sub>20</sub>N<sub>5</sub>Na<sub>2</sub>O<sub>16</sub>P<sub>3</sub>  
 Molecular Weight: 605.19  
 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 disodium trihydrate (Adenosine-5'-triphosphate disodium trihydrate) is an important substance for energy storage and metabolism in the body. It is an important endogenous signaling molecule in immunity and inflammation, which provides energy for the body's metabolism and also acts as a coenzyme in cells.
Targets(IC50)	Endogenous Metabolite
In vitro	ATP disodium trihydrate (5 mM; 1 h) with LPS (1 µg/mL) has a synergistic effect on the activation of the NLRP3 inflammasome in HGFs.[3] ATP disodium trihydrate (2 mM; 0.5-24 h) induces BMDM to secrete IL-1β, KC and MIP-2 in a caspase-1 activation-dependent manner.[4] ATP disodium trihydrate promotes neutrophil chemotaxis.[4]
In vivo	ATP disodium trihydrate (50 mg/kg; ip) protects mice against bacterial infection and induces the secretion of IL-1β, KC, and MIP-2, promoting neutrophil recruitment.[4]

### Solubility Information

Solubility	DMSO: 0.9 mg/mL (1.49 mM), Sonication and heating to 80°C are recommended. H <sub>2</sub> O: 260 mg/mL (429.62 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	1.6524 mL	8.2619 mL	16.5237 mL
5 mM	0.3305 mL	1.6524 mL	3.3047 mL
10 mM	0.1652 mL	0.8262 mL	1.6524 mL
50 mM	0.033 mL	0.1652 mL	0.3305 mL

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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

Swennen EL, et al. Immunoregulatory effects of adenosine 5'-triphosphate on cytokine release from stimulated whole blood. *Eur J Immunol.* 2005;35(3):852-858.

Bours MJ, et al. Adenosine 5'-triphosphate and adenosine as endogenous signaling molecules in immunity and inflammation. *Pharmacol Ther.* 2006;112(2):358-404.

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

Xiang Y, 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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