



# SZABO SCANDIC

Part of Europa Biosite

## Produktinformation



Forschungsprodukte & Biochemikalien



Zellkultur & Verbrauchsmaterial



Diagnostik & molekulare Diagnostik



Laborgeräte & Service

Weitere Information auf den folgenden Seiten!  
See the following pages for more information!



### Lieferung & Zahlungsart

siehe unsere [Liefer- und Versandbedingungen](#)

### Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

### SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

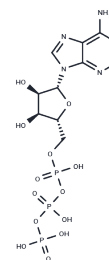
[www.szabo-scandic.com](http://www.szabo-scandic.com)

[linkedin.com/company/szaboscandic](https://www.linkedin.com/company/szaboscandic) 

## ATP

## Chemical Properties

CAS No. :	56-65-5
Formula:	C <sub>10</sub> H <sub>16</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub>
Molecular Weight:	507.18
Appearance:	no data available
Storage:	keep away from moisture Powder: -20°C for 3 years   In solvent: -80°C for 1 year



## Biological Description

Description	ATP (Adenosine triphosphate) provides cellular energy, participates in overall energy balance, and maintains intracellular homeostasis. ATP can act as an extracellular signaling molecule through interactions with specific purinergic receptors to mediate a variety of processes including neurotransmission, inflammation, apoptosis, and bone remodeling.
Targets(IC50)	Endogenous Metabolite
In vitro	<p><b>METHODS:</b> Synovial fibroblast HSF were rapidly treated (wash-in and wash-out ~2 s) with ATP (10 μM) three times, and [Ca<sup>2+</sup>] changes were detected using Fluo-4 fluorescence.</p> <p><b>RESULTS:</b> During the first application of ATP, Fluo-4 fluorescence increased rapidly after a delay of a few seconds and decreased slightly before the end of ATP application. After removal of ATP, the fluorescence signal returned to resting levels, but fluorescence decreased much more slowly than it had begun after the initial ATP application. The two subsequent ATP applications produced a response of less amplitude than the first, and the delay until the onset of the response appeared to lengthen with successive applications. [1]</p> <p><b>METHODS:</b> Mouse bone marrow-derived macrophages BMDM were stimulated with LPS, HKEC, or HKSA, followed by treatment with ATP (2 mM) for 0.5-24 h. Levels of IL-1β, KC, and MIP-2 were determined using ELISA.</p> <p><b>RESULTS:</b> ATP treatment strongly induced the secretion of IL-1β, KC and MIP-2. [2]</p>
In vivo	<p><b>METHODS:</b> To test the antibacterial activity in vivo, ATP (50 mg/kg) was injected intraperitoneally into Kunming mice, and E. coli 25922 or S. aureus 25923 was injected 1-24 h later.</p> <p><b>RESULTS:</b> The administration of ATP 4 h or 24 h before the attack did significantly increase the survival rate of infected mice, regardless of the bacterial type. [2]</p> <p><b>METHODS:</b> To assay in vivo antibacterial activity, ATP (40 mg/kg), clarithromycin (12 mg/kg), and rifampin (8 mg/kg) were injected subcutaneously into MAC-infected BALB/c mice five times per week for eight weeks.</p> <p><b>RESULTS:</b> Co-administration of ATP with clarithromycin and rifampin accelerated bacterial clearance in MAC-infected mice without resulting in changes in histopathologic features or mRNA expression of pro- or anti-inflammatory cytokines in mice not given ATP. [3]</p>

## Solubility Information

Solubility	DMSO: 1.67 mg/mL (3.29 mM) H2O: 100 mg/mL (197.17 mM), Sonication is recommended. ( $< 1$ mg/ml refers to the product slightly soluble or insoluble)
------------	--

## Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.9717 mL	9.8584 mL	19.7169 mL
5 mM	0.3943 mL	1.9717 mL	3.9434 mL
10 mM	0.1972 mL	0.9858 mL	1.9717 mL
50 mM	0.0394 mL	0.1972 mL	0.3943 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.

## Reference

Kondo C, et al. ATP triggers a robust intracellular  $[Ca^{2+}]$ -mediated signalling pathway in human synovial fibroblasts. *Exp Physiol.* 2018 Aug;103(8):1101-1122.

**Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins**

This product is for Research Use Only · Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E\_mail: info@targetmol.com Address: 36 Washington Street, Wellesley Hills, MA 02481