



# 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

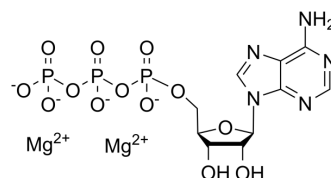
[mail@szabo-scandic.com](mailto:mail@szabo-scandic.com)

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

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

## ATP dimagnesium

<b>Cat. No.:</b>	HY-B2176B
<b>CAS No.:</b>	74804-12-9
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>12</sub> Mg <sub>2</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub>
<b>Molecular Weight:</b>	551.76
<b>Target:</b>	Endogenous Metabolite
<b>Pathway:</b>	Metabolic Enzyme/Protease
<b>Storage:</b>	-20°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



### SOLVENT & SOLUBILITY

#### In Vitro

H<sub>2</sub>O : 250 mg/mL (453.10 mM; Need ultrasonic)

Solvent	Mass	Concentration		
		1 mg	5 mg	10 mg
Preparing Stock Solutions	1 mM	1.8124 mL	9.0619 mL	18.1238 mL
	5 mM	0.3625 mL	1.8124 mL	3.6248 mL
	10 mM	0.1812 mL	0.9062 mL	1.8124 mL

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

### BIOLOGICAL ACTIVITY

#### Description

ATP (Adenosine 5'-triphosphate) dimagnesium is a central component of energy storage and metabolism in vivo. ATP dimagnesium provides the metabolic energy to drive metabolic pumps and serves as a coenzyme in cells. ATP dimagnesium is an important endogenous signaling molecule in immunity and inflammation<sup>[1][2]</sup>.

#### IC<sub>50</sub> & Target

Human Endogenous Metabolite

#### In Vitro

ATP (5 mM; 1 hour) co-treatment with LPS (1 µg/mL) has a synergistic effect on the activation of the NLRP3 inflammasome in HGFs<sup>[3]</sup>.  
ATP (2 mM; 0.5-24 hours) induces secretion of IL-1β, KC and MIP-2 from BMDMs in a caspase-1 activation-dependent manner<sup>[4]</sup>.  
ATP promotes neutrophil chemotaxis in vitro<sup>[4]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

#### In Vivo

ATP (50 mg/kg; i.p.) protects mice against bacterial infection in vivo<sup>[4]</sup>.  
ATP induces the secretion of IL-1β, KC and MIP-2 and neutrophils recruitment in vivo<sup>[4]</sup>.  
MCE has not independently confirmed the accuracy of these methods. They are for reference only.

Animal Model:	Four-week-old Kunming mice (18-22 g) <sup>[4]</sup>
Dosage:	50 mg/kg
Administration:	Intraperitoneal injection, before bacterial (E. coli) challenge
Result:	Protected mice from bacterial infection.

## CUSTOMER VALIDATION

- Immunity. 2024 Feb 16;S1074-7613(24)00044-X.
- Protein Cell. 2021 Oct 22;1-21.
- ACS Nano. 2023 Nov 21.
- Mol Cell. 2023 May 19;S1097-2765(23)00324-6.
- Mol Cell. 2022 Apr 14;S1097-2765(22)00290-8.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

## REFERENCES

- [1]. Swennen EL, et al. Immunoregulatory effects of adenosine 5'-triphosphate on cytokine release from stimulated whole blood. *Eur J Immunol.* 2005 Mar;35(3):852-8.
- [2]. M J L Bours, et al. Adenosine 5'-triphosphate and adenosine as endogenous signaling molecules in immunity and inflammation. *Pharmacol Ther.* 2006 Nov;112(2):358-404.
- [3]. Shuo Xu, et al. Doxycycline inhibits NAcetyl 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 Nov;107:104514.
- [4]. 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.

**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](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA