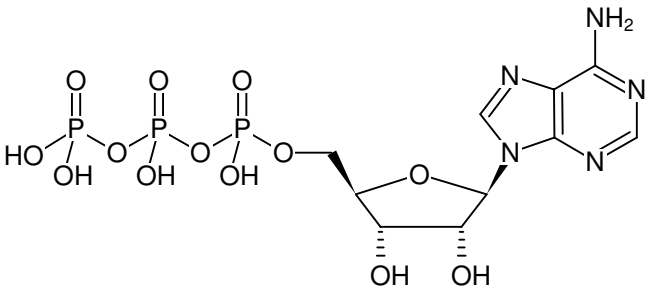
DATA SHEET

Jena Bioscience

ATP - Solution

100 mM Sodium salt solution
Adenosine 5'-triphosphate, Sodium salt

Cat. No.	Amount
NU-1010	1 ml (100 mM)
NU-1010-100ML	100 ml (100 mM)



Structural formula of ATP - Solution

For general laboratory use.

Shipping: shipped on gel packs

Storage Conditions: store at -20 °C

Short term exposure (up to 1 week cumulative) to ambient temperature possible. If stored as recommended, Jena Bioscience guarantees optimal performance of this product for 12 months after date of delivery.

Shelf Life: 12 months

Molecular Formula: $C_{10}H_{16}N_5O_{13}P_3$ (free acid)

Molecular Weight: 507.18 g/mol (free acid)

CAS#: 987-65-5

Purity: ≥ 99 % (HPLC)

Form: clear aqueous solution

Concentration: 100 mM ±2 %

pH: 8.0 ±0.2 (22 °C)

Spectroscopic Properties: λ_{max} 259 nm, ε 15.1 L $mmol^{-1}$ cm^{-1} (Tris-HCl pH 7.0)

Applications:
ATP-sensitive calcium channels[1]

V-ATPases (cellular proton pumps)[2]

ATP-coupled chromatin remodelling[3]

ATP-binding cassette transporters[4]

ATP-grasp enzymes[5]

Agonistic ligand, mainly for nucleoside receptor A_1
Nucleoside-triphosphates can be converted by different membrane-bound phosphatases into nucleosides acting as nucleoside receptor ligands.

Description:
Ultrapure ATP supplied as clear aqueous solution.

Specific Ligands:

Ligand for purinergic receptors:
$P2X_1$-$P2X_3$[6,7]
$P2X_{1/4}$[8]
$P2X_4$[7]
$P2X_7$[9,10,11]
$P2X_1$ - $P2X_7$[12]
$P2Y_1$[10,14]
$P2Y_2$[13,14]
$P2Y_{11}$[14]

Selected References:

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[4] Gatti *et al.* (2011) Novel insights into targeting ATP-binding cassette transporters for antitumor therapy. *Curr. Med. Chem.* **18 (27)**:4237.

[5] Fawaz *et al.* (2011) The ATP-grasp enzymes. *Bioorg. Chem.* **39 (5)**:185.

[6] Lambertucci *et al.* (2015) Medicinal chemistry of P2X receptors: Agonists and orthosteic antagonists. *Curr. Med. Chem.* **22 (7)**:915.

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[10] Stolz *et al.* (2015) Homodimeric anoctamin-1, but not homodimeric anoctamin-6, is activated by calcium increases mediated by the P2Y1 and P2X7 receptors. *Pflugers Archiv* DOI:10.1007/s00424-015-1687-3.

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[13] Xie *et al.* (2014) The P2Y2 nucleotide receptor mediates the proliferation and migration of human hepatocellular carcinoma cells induced by ATP. *J. Biol. Chem.* **289 (27)**:19137.

[14] Kim *et al.* (2002) Methanocarba modification of uracil and adenine nucleotides: High potency of northern ring conformation at P2Y1, P2Y2, P2Y4 and P2Y11 but not P2Y6 receptors. *J. Med. Chem.* **45**:208.

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Hasko *et al.* (2007) Shaping of monocyte and macrophage function by adenosine receptors. *Pharmacol.& Therapeutics* **113**:264.

Holland *et al.* (1991) Detection of specific polymerase chain reaction product by utilizing the 5'—-3' exonuclease activity of *Thermus aquaticus* DNA polymerase. *Proc. Natl. Acad. Sci. USA* **88 (16)**:7276.

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Williams *et al.* (1986) Effects of purine nucleotides on the binding of [3H]cyclopentyladenosine to adenosine A1-receptors in rat brain membranes. *J. Neurochem.* **47 (1)**:88.

Sanger *et al.* (1977) DNA sequencing with chain-terminating inhibitors. *Proc. Natl. Acad. Sci. USA* **74**:5463.