DATA SHEET

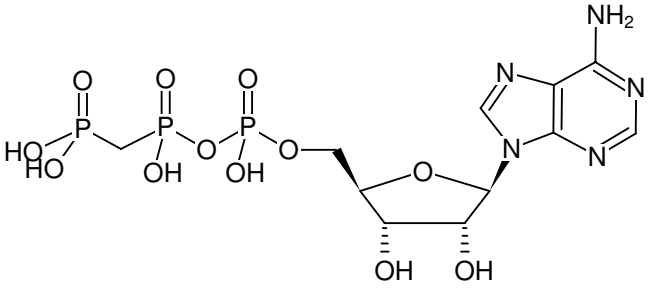
Jena Bioscience

AppCp

(AMPPCP)

Adenosine-5'-[(β,γ)-methyleno]triphosphate, Sodium salt

Cat. No.	Amount
NU-422-10	10 mg
NU-422-25	25 mg



Structural formula of AppCp

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.

Shelf Life: 12 months after date of delivery

Molecular Formula: $C_{11}H_{18}N_5O_{12}P_3$ (free acid)

Molecular Weight: 505.21 g/mol (free acid)

Exact Mass: 505.02 g/mol (free acid)

CAS#: 7414-56-4

Purity: ≥ 95 % (HPLC)

Form: solid

Color: white to off-white

Spectroscopic Properties: λ_{max} 259 nm, ε 15.4 L mmol^{-1} cm^{-1} (Tris-HCl pH 7.5)

Applications:
Conformational studies on complex with mevalonate diphosphate decarboxylase[1]

Structure of the complex with folylpolyglutamate synthetase[2]

Structure of complex with p90 ribosomal S6 kinases[3]

Crystal structure of complex with Ca2+-ATPase[4]

NMR-studies of complex with yeast hexokinase[5]

Agonistic ligand, mainly for nucleoside receptor A_1
Nucleosidephosphates stabilized against hydrolytic degradation can directly bind to nucleoside receptors.

Specific Ligands:

Tubulin[6]

Nonhydrolyzable ligand for P2X purinoreceptor[7,8]

Selected References:

[1] Reuther *et al.* (2011) Backbone 1H, 13C, 15N NMR assignments of the unliganded and substrate ternary complex forms of mevalonate diphosphate decarboxylase from Streptococcus pneumoniae. *Biomol. NMR Assign.* **5 (1)**:11.

[2] Young *et al.* (2008) Structures of Mycobacterium tuberculosis folylpolyglutamate synthase complexed with ADP and AMPPCP. *Acta Crystallogr D Biol Crystallogr.* **D64 (Pt 7)**:745.

[3] Ikuta *et al.* (2007) Crystal structures of the N-terminal kinase domain of human RSK1 bound to three different ligands: Implications for the design of RSK1 specific inhibitors. *Protein Sci.* **16 (12)**:2626.

[4] Picard *et al.* (2005) The average conformation at micromolar [Ca2+] of Ca2+-atpase with bound nucleotide differs from that adopted with the transition state analog ADP.AlFx or with AMPPCP under crystallization conditions at millimolar [Ca2+]. *J. Biol. Chem.* **280 (19)**:18745.

[5] Maity *et al.* (2002) Structure of triphosphoryl nucleotide bound at the active site of yeast hexokinase: 1H-nuclear magnetic resonance study. *J. Protein Chem.* **21 (4)**:265.

[6] Kubala (2006) ATP-binding to P-type ATPases as revealed by biochemical, spectroscopic, and crystallographic experiments. *Proteins.* **64 (1)**:1.

[7] Trezise *et al.* (1995) The selective P2X purinoceptor agonist, beta,gamma-methylene-L-adenosine 5'-triphosphate, discriminates between smooth muscle and neuronal P2X purinoceptors. *Arch. Pharmacol.* **351 (6)**:603.

O'Connor *et al.* (1990) Characterization of P2x-receptors in rabbit isolated ear artery. *Br. J. Pharmacol.* **101 (3)**:640.

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Del Toro Duany *et al.* (2008) The reverse gyrase helicase-like domain is a nucleotide-dependent switch that is attenuated by the topoisomerase domain. *Nucleic Acids Research* **36 (18)**:5882.

Toyoshima *et al.* (2004) Crystal structure of the calcium pump with a bound ATP analogue. *Nature* **430**:529.

Mayer *et al.* (1991) Re-evaluation of the specificity of adenylyl (beta,gamma-methylene)diphosphonate as a substrate for adenylate cyclase. *Histochem J.* **23 (2)**:100.

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.

Mayer *et al.* (1985) Specificity of cytochemical demonstration of adenylate cyclase in liver using adenylate- (beta, gammamethylene) diphosphate as substrate. *Histochemistry.* **82 (2)**:135.

Meghji *et al.* (1984) The effect of adenylyl compounds on the heart of the dogfish, Scyliorhinus canicula. *Comparative Biochem. and Physiol.Part C: Pharmacol., Toxicol.& Endocrin.* **77C (2)**:295.

Meghji *et al.* (1983) The effect of adenylyl compounds on the heart of the axolotl (Ambystema mexicanum). *Comparative Biochem. and Physiol.Part C: Pharmacol., Toxicol.& Endocrin.* **76 (2)**:319.