

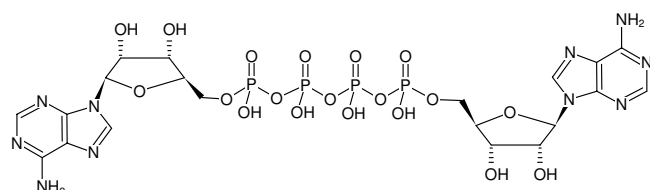


AP₄A - Solution

(AppppA)

P¹-(5'-Adenosyl) P⁴-(5'-adenosyl) tetraphosphate, Sodium salt

Cat. No.	Amount
NU-507S	100 µl (10 mM)
NU-507L	5 x 100 µl (10 mM)



Structural formula of AP₄A - Solution

For research use only!

Shipping: shipped on blue ice

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: C₂₀H₂₈N₁₀O₁₉P₄ (free acid)

Molecular Weight: 836.39 g/mol (free acid)

CAS#: 5542-28-9

Purity: ≥ 95 % (HPLC)

Form: solution in water

Color: colorless to slightly yellow

Concentration: 10 mM - 11 mM

pH: 7.5 ± 0.5

Spectroscopic Properties: λ_{max} 259 nm, ε 27.0 L mmol⁻¹ cm⁻¹ (Tris-HCl pH 7.5)

Specific Ligands:

Ligand for P2Y receptors:

Agonist at P2Y₁ receptor^[1], at P2Y₂ receptor^[2,3], P2Y₁₁ receptors^[3,4] and P2Y receptors in brain and lung membranes^[5]

Selected References:

[1] Yegutkin *et al.* (1998) Steady-state binding of [3H]ATP to rat liver plasma membranes and competition by various purinergic agonists and antagonists. *Biochim. Biophys. Acta* **1373** (1):227.

[2] Lazarowski *et al.* (1995) Pharmacological selectivity of cloned human P2U-purinoreceptor: potent activation by diadenosine tetraphosphate. *Br. J. Pharmacol.* **116** (1):1619.

[3] Patel *et al.* (2001) Activity of diadenosine polyphosphates at P2Y receptors stably expressed in 1321N1 cells. *Eur. J. Pharmacol.* **430** (2):203.

[4] Communi *et al.* (1999) Pharmacological characterization of the human P2Y₁₁ receptor. *Br. J. Pharmacol.* **128** (6):1199.

[5] Reiser *et al.* (1999) Nucleotide radiolabels as tools for studying P2Y receptors in membranes from brain and lung tissue. *Prog. Brain Res.* **129**:45.

Safrany *et al.* (2007) Characterisation of a bis (5'-nucleosyl)-tetraphosphatase (asymmetrical) from *Drosophila melanogaster*. *Int. J. Biochem. Cell Biol.* **39** (5):943.

Gross *et al.* (2006) Nucleotide-binding domains of Cystic Fibrosis Transmembrane Conductance Regulator, an ABC Transporter, Catalyze Adenylate Kinase Activity but not ATP Hydrolysis. *J. Biol. Chem.* **281** (7):4058.

Leslie *et al.* (2002) Cloning and characterisation of hAps1 and hAps2, human diadenosine polyphosphate-metabolising Nudix hydrolases. *BMC Biochemistry* **3**:20.

Campbell *et al.* (1999) Characterization of P₁P₄-diadenosine 5'-tetraphosphate binding on bovine aortic endothelial cells. *Arch. Biochem. Biophys.* **364**:280.

Vartanian *et al.* (1999) Ap₄A induces apoptosis in human cultured cells. *FEBS Lett.* **456**:175.

Brevet *et al.* (1985) Variation of Ap₄A and other dinucleoside polyphosphates in stressed *Drosophila* cells. *J. Biol. Chem.* **260**:15566.

Guedon *et al.* (1985) Effect of diadenosine tetraphosphate microinjection on heat shock protein synthesis in *Xenopus laevis* oocytes. *EMBO J.* **4**:3743.

Guranowski *et al.* (1985) Phosphorolytic cleavage of diadenosine 5',5''-P₁P₄-tetraphosphate. Properties of homogeneous diadenosine 5',5''-P₁P₄-tetraphosphate alpha, beta-phosphorylase from *Saccharomyces cerevisiae*. *J. Biol. Chem.* **260**:3542.

Bochner *et al.* (1984) AppppA and related adenylated nucleotides are synthesized as a consequence of oxidation stress. *Cell* **37** (1):225.

Guranowski *et al.* (1983) Catabolism of diadenosine 5',5'-P₁P₄-tetraphosphate

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in procaryotes. Purification and properties of diadenosine 5',5'-P₁,P₄-tetraphosphate (symmetrical) pyrophosphohydrolase from *Escherichia coli* K12. *J. Biol. Chem.* **258**:14784.

Jakubowski *et al.* (1983) Enzymes hydrolyzing ApppA and/or AppppA in higher plants. Purification and some properties of diadenosine triphosphatase, diadenosine tetraphosphatase, and phosphodiesterase from yellow lupin (*Lupinus luteus*) seeds. *J. Biol. Chem.* **258**:9982.