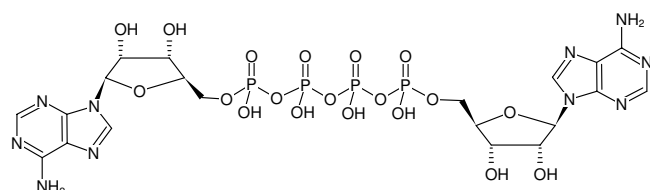


**AP<sub>4</sub>A - Solution**

(AppppA)

P<sup>1</sup>-(5'-Adenosyl) P<sup>4</sup>-(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 AP<sub>4</sub>A - 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.

**Shelf Life:** 12 months after date of delivery**Molecular Formula:** C<sub>20</sub>H<sub>28</sub>N<sub>10</sub>O<sub>19</sub>P<sub>4</sub> (free acid)**Molecular Weight:** 836.39 g/mol (free acid)**Exact Mass:** 836.05 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<sub>max</sub> 259 nm, ε 27.0 L mmol<sup>-1</sup> cm<sup>-1</sup> (Tris-HCl pH 7.5)**Specific Ligands:**Ligand for P2Y receptors:Agonist at P2Y<sub>1</sub> receptor<sup>[1]</sup>, at P2Y<sub>2</sub> receptor<sup>[2,3]</sup>, P2Y<sub>11</sub> receptors<sup>[3,4]</sup> and P2Y receptors in brain and lung membranes<sup>[5]</sup>**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 P2Y<sub>11</sub> 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 P<sub>1</sub>P<sub>4</sub>-diadenosine 5'-tetraphosphate binding on bovine aortic endothelial cells. *Arch. Biochem. Biophys.* **364**:280.

Vartanian *et al.* (1999) Ap<sub>4</sub>A induces apoptosis in human cultured cells. *FEBS Lett.* **456**:175.

Brevet *et al.* (1985) Variation of Ap<sub>4</sub>A 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'''-P<sub>1</sub>P<sub>4</sub>-tetraphosphate. Properties of homogeneous diadenosine 5',5'''-P<sub>1</sub>P<sub>4</sub>-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'''-P<sub>1</sub>P<sub>4</sub>-tetraphosphate

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in procaryotes. Purification and properties of diadenosine 5',5'-P<sub>1</sub>,P<sub>4</sub>-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.