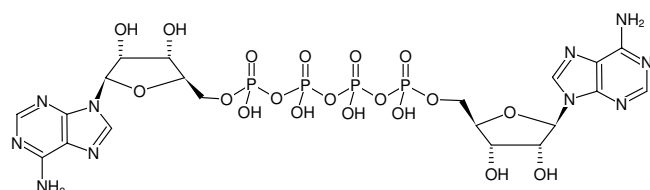


**AP₄A - Solid**

(AppppA)

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

Cat. No.	Amount
NU-507-5	5 mg
NU-507-25	25 mg

Structural formula of AP₄A - Solid**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:** C₂₀H₂₈N₁₀O₁₉P₄ (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:** solid**Color:** white to off-white**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.