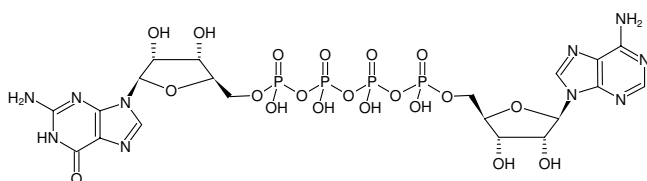


**AP₄G**

(AppppG)

P¹-(5'-Adenosyl) P⁴-(5'-guanosyl) tetraphosphate, Triethylammonium salt

Cat. No.	Amount
NU-503S	50 µl (10 mM)
NU-503L	5 x 50 µl (10 mM)

Structural formula of AP₄G**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:** C₂₀H₂₈N₁₀O₂₀P₄ (free acid)**Molecular Weight:** 852.39 g/mol (free acid)**Exact Mass:** 852.04 g/mol (free acid)**CAS#:** 10527-46-5**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)**Applications:**Formation by T4 RNA ligase^[1]Formation by Pfu DNA ligase^[2]Acceptor substrate for T4 RNA ligase^[3]**Selected References:**[1] Sillero *et al.* (2006) Synthesis of bisphosphonate derivatives of ATP by T4 RNA ligase. *FEBS Lett.* **580** (24):5723.[2] Günther *et al.* (2002) Thermostable *Pyrococcus furiosus* DNA ligase catalyzes the synthesis of (di)nucleoside polyphosphates. *Extremophiles.* **6** (1):45.[3] Atencia *et al.* (2000) Several dinucleoside polyphosphates are acceptor substrates in the T4 RNA ligase catalyzed reaction. *Eur. J. Biochem.* **267** (6):1707.Winward *et al.* (2010) Oxidation of the diphosphoinositol polyphosphate phosphohydrolase-like Nudix hydrolase Aps from *Drosophila melanogaster* induces thermolability—A possible regulatory switch? *Int. J. Biochem. Cell Biol.* **42** (7):1174.Safrany *et al.* (2007) Characterisation of a bis (5'-nucleosyl)-tetraphosphatase (asymmetrical) from *Drosophila melanogaster*. *Int. J. Biochem. Cell Biol.* **39** (5):943.Leslie *et al.* (2002) Cloning and characterisation of hAps1 and hAps2, human diadenosine polyphosphate-metabolising Nudix hydrolases. *BMC Biochemistry* **3**:20.Ortiz *et al.* (1993) Specific synthesis of adenosine (5')tetraphospho (5')nucleoside and adenosine- (5')oligophospho (5')adenosine (n-greaterthan-4) catalyzed by firefly luciferase. *Eur. J. Biochem.* **212** (1):263.Palfi *et al.* (1991) Alterations in the accumulation of adenylylated nucleotides in heavy-metal-ion-stressed and heat-stressed *Synechococcus* sp strain pcc-6301, a cyanobacterium, in light and dark. *Biochem. J.* **276**:487.Brevet *et al.* (1991) Isolation and characterization of a dinucleoside triphosphatase from *Saccharomyces-cerevisiae*. *J. Bacteriol.* **173** (17):5275.Sillero *et al.* (1991) Synthesis of dinucleoside polyphosphates catalyzed by firefly luciferase. *Eur. J. Biochem.* **202** (2):507.Avila *et al.* (1991) A paradoxical increase of a metabolite upon increased expression of its catabolic enzyme - the case of diadenosine tetraphosphate (AP4A) and AP4A phosphorylase-I in *Saccharomyces-cerevisiae*. *J. Bacteriol.* **173** (24):7875.Barnes *et al.* (1984) Measurement of AP4A and AP4G during the cell-cycle of *Physarumpolycephalum*. H-S Z. *Physiol. Chem.* **365** (6):608.Bochner *et al.* (1984) AppppA and related adenylylated nucleotides are synthesized as a consequence of oxidation stress. *Cell* **37** (1):225.Garrison *et al.* (1984) Assay of adenosine 5'-P1-tetraphospho-P4-5'''-adenosine and adenosine 5'-P1-tetraphospho-P4-5'''-guanosine in



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Physarum-polycephalum and other eukaryotes - an isocratic high-pressure liquid-chromatography method. *Biochem. J.* **217 (3)**:805.