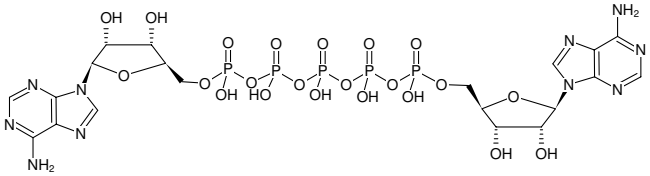
DATA SHEET

Jena Bioscience

AP_5A

P^1-(5'-Adenosyl) P^5-(5'-adenosyl) pentaphosphate, Sodium salt

Cat. No.	Amount
NU-508S	50 µl (10 mM)
NU-508L	5 x 50 µl (10 mM)



Structural formula of AP_5A

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: $C_{20}H_{29}N_{10}O_{22}P_5$ (free acid)

Molecular Weight: 916.37 g/mol (free acid)

Exact Mass: 916.01 g/mol (free acid)

CAS#: 41708-91-2

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 and P2X receptors:

Agonist at $P2Y_1$ receptor[1,2,3], at $P2X_1$ receptor[4,5], $P2X_1$ - $P2X_4$, $P2Y_{1,2,4,12}$ receptors[2,4,5] and vascular purinoreceptor P2X[6]

Selected References:

[1] Gualix *et al.* (2014) Presence of diadenosine polyphosphates in microdialysis samples from rat cerebellum in vivo: effect of mild hyperammonemia on their receptors. *Purinergic Signal.* **10 (2)**:349.

[2] Szczepanska-Konkel *et al.* (2005) Effects of diadenosine polyphosphates on glomerular volume. *Br. J. Pharmacol.* **144 (8)**:1109.

[3] Yerxa *et al.* (2001) P1- (uridine 5')-P4- (2'-deoxycytidine 5')tetraphosphate tetrasodiumsalt a next generation P2Y2 receptor agonist for treatment of cystic fibrosis. *J. Pharmacol. Exp. Ther.* **302**:871.

[4] Zhang *et al.* (2002) Identification and characterization of a novel Gαi-coupled ADP receptor from human and mouse. *J. Pharmacol. Exp. Ther.* **301 (2)**:705.

[5] Allsopp *et al.* (2013) P2X receptor chimeras highlight roles of amino terminus to partial agonist efficacy, the carboxyl terminus to recovery from desentization, and independent regulation of channel transitions. *J. Biol. Chem.* **288 (29)**:21412.

[6] Neely *et al.* (1996) P2X purinoreceptors in the feline pulmonary vascular bed: distribution and selective in vivo pharmacological probes. *Am. J. Physiol.* **270 (6 Pt 1)**:L889.

Pintor *et al.* (1999) Presence of dinucleotide and ATP receptors in human cerebrocortical synaptic terminals. *Eur. J. Pharmacol.* **366**:159.

Wildman *et al.* (1999) Selectivity of diadenosine polyphosphates for rat P2X receptor subunits. *Eur. J. Pharmacol.* **367**:119.

Jovanovic *et al.* (1998) Diadenosine 5',5"-P1,P5-pentaphosphate harbors the properties of a signaling molecule in the heart. *FEBS Lett.* **423**:314.

Verspohl *et al.* (1998) Diadenosine polyphosphates in insulin-secreting cells: interaction with specific receptors and degradation. *Diabetes* **47**:1727.

Delaney *et al.* (1997) Diadenosine polyphosphates inhibit adenosine kinase activity but decrease levels of endogenous adenosine in rat brain. *Eur. J. Pharmacol.* **332**:35.

Edgecombe *et al.* (1997) Diadenosine polyphosphate-stimulated gluconeogenesis in isolated rat proximal tubules. *Biochem. J.* **323**:451.

Ogilvie *et al.* (1996) Adenine dinucleotides: a novel class of signalling molecules. *J. Auton. Pharmacol.* **16**:325.

Schluter *et al.* (1994) Diadenosine phosphates and the physiological control of blood pressure. *Nature* **367**:186.