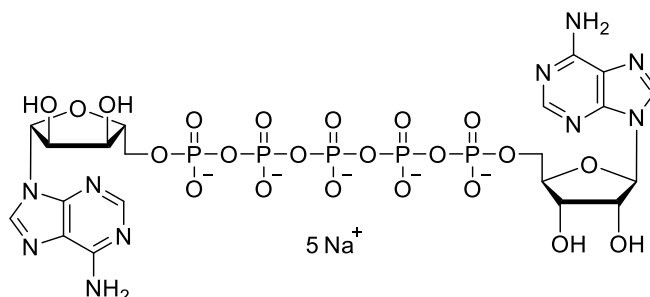


## Technical Information about P<sup>1</sup>,P<sup>5</sup>-Di-(adenosine-5')-pentaphosphate ( Ap<sub>5</sub>A / ApppppA )

Update: April 15, 2019 HU



**Abbreviation:** Ap<sub>5</sub>A / ApppppA

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat.No.
C <sub>20</sub> H <sub>29</sub> N <sub>10</sub> O <sub>22</sub> P <sub>5</sub> (free acid)	[4097-04-5]	916.4 (free acid)	λ <sub>max</sub> 259 nm / ε 27000 / pH 7	D 055

**Name:** P<sup>1</sup>, P<sup>5</sup>- Di- (adenosine- 5')- pentaphosphate / P<sup>1</sup>- (5'- Adenosyl)- P<sup>5</sup>- (5'- adenosyl)- pentaphosphate

**Description:** In Ap<sub>5</sub>A two adenosine moieties are linked via their 5' positions by five phosphate groups.

**Properties:** Ap<sub>5</sub>A is a naturally occurring dinucleoside polyphosphate showing vasoactivity mediated via P2 receptors.

**Specification:** Lyophilized or crystallized sodium salt. The free acid or other salt forms are available upon request. Equal concentrations of Ap<sub>5</sub>A can appear very different in volume due to sensitivity of the lyophilized form to humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube. Micromolar quantities are determined by UV at λ<sub>max</sub>.

**Purity:** Typical analysis is better than 95% (HPLC / UV / 259 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** Ap<sub>5</sub>A has good solubility in water and aqueous buffers (≥ 10 mM, limits have not been determined). Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

**Stability and Storage:** Ap<sub>5</sub>A has sufficient stability at room temperature and does not need special care during handling or shipment. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form.

**Toxicity and Safety:** Please keep in mind that the *in vivo* properties of this compound are not sufficiently characterized up to now. Avoid skin contact or ingestion and allow only trained personnel to handle the product. Our products are designed, developed and sold for research purposes only. They are intended for *in vitro* and nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.

**Not for drug, household or related uses!**

### Selected References for Ap<sub>5</sub>A:

Gomez-Villafuertes, R.; Pintor, J.; Gualix, J.; Miras-Portugal, M.T., *J. Pharmacol. Exp. Ther.*, **308**, 1148 - 1157 (2004): "GABA Modulates Presynaptic Signalling Mediated by Dinucleotides on Rat Synaptic Terminals"

Pintor, J.; Peral, A.; Peláez, T.; Martín, S.; Hoyle, C.H.V., *J. Pharmacol. Exp. Ther.*, **304**, 342 - 348 (2003): "Presence of Diadenosine Polyphosphates in the Aqueous Humor: Their Effect on Intraocular Pressure"

Lewis, C.J.; Gitterman, D.P.; Schlüter, H.; Evans, R.J., *Br. J. Pharmacol.*, **129**, 124 - 130 (2000): "Effects of Diadenosine Polyphosphates (Ap<sub>n</sub>As) and Adenosine Polyphospho Guanosines (Ap<sub>n</sub>Gs) on Rat Mesenteric Artery P2X Receptor Ion Channels"