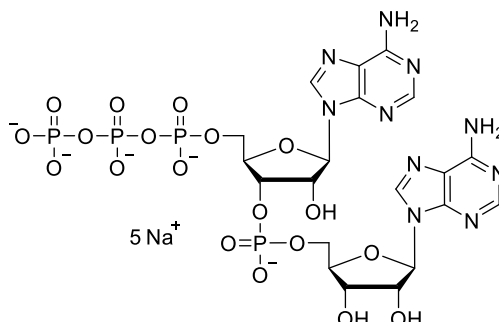


## Technical Information about pppApA

Update: June 09, 2022 ss



**Abbreviation:** pppApA

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>20</sub> H <sub>28</sub> N <sub>10</sub> O <sub>19</sub> P <sub>4</sub> (for free acid)	[17730-98-2]	836.4 (for free acid)	λ <sub>max</sub> 259 nm / ε 27000 / pH 7	T 069

**Name:** 5'- Triphosphoadenylyl- (3' → 5')- adenosine, sodium salt

**Description:** In pppApA a 5'-ATP unit is connected with a 5'-AMP unit via a 3' → 5' linkage to form a linear dinucleotide.

**Properties:** pppApA is considered to be a linear dinucleotide intermediate in the enzymatic production of the bacterial signalling nucleotide c-diAMP (Cat. No. C 088) and of cyclic oligoadenylates such as c-tetraAMP (Cat. No. C 335).

**Specification:** Aqueous solution of the sodium salt (10 mM). Other salt forms of pppApA may be available upon request. Micromolar quantities are determined by UV at λ<sub>max</sub>. When opening the tube please make sure that no liquid is lost within the cap. A short spin-down in a bench centrifuge is recommended before use.

**Purity:** Typical purity is better than 95% (HPLC / UV / 259 nm) at time of quality control and packing. However, actual purity depends on storage and transport conditions. The product is not sterile and has not been tested for endotoxins.

**Stability and Storage:** pppApA is most stable when stored as aqueous solution in the freezer (-20° Celsius necessary, -70° recommended), however, at ambient temperature the compound slowly starts to decompose. Thus, in order to maintain its original high quality it is recommended to allow thawing only before using the product. If you will not use up the vial with one application, please aliquot the contents of the vial in order to avoid repeated freeze/thaw cycles for the rest. When making such aliquots, be sure to operate quickly and to freeze the vial again as soon as possible.

**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 pppApA:

Jia, N.; Jones, R.; Yang, G.; Ouerfelli, O.; Patel, D. J., *Mol. Cell*, **75**, 944 - 956 (2019): "CRISPR-Cas III-A Csm6 CARF Domain Is a Ring Nuclease Triggering Stepwise cA<sub>4</sub> Cleavage with ApA>p Formation Terminating RNase Activity"

Niewoehner, O.; Garcia-Doval, C.; Rostøl, J. T.; Berk, C.; Schwede, F.; Bigler, L.; Hall, J.; Marraffini, L. A.; Jinek, M., *Nature*, **548**, 543 - 548 (2017): "Type III CRISPR-Cas Systems Produce Cyclic Oligoadenylate Second Messengers"

Manikandan, K.; Sabareesh, V.; Singh, N.; Saigal, K.; Mechold, U.; Sinha, K. M., *PLoS one*, **9**(1):e86096 (2014): "Two-Step Synthesis and Hydrolysis of Cyclic di-AMP in Mycobacterium tuberculosis"