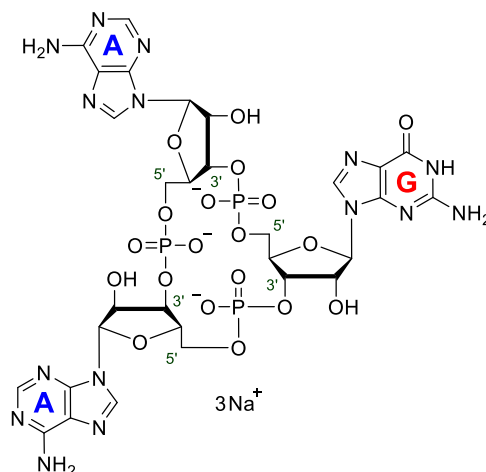


Technical Information about c[A(3',5')pA(3',5')pG(3',5')p]

Update: July 06, 2021 AI



Abbreviation: c[A(3',5')pA(3',5')pG(3',5')p]

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₃₀ H ₃₆ N ₁₅ O ₁₉ P ₃ (free acid)	[2365165-54-2]	1003.6 (free acid)	λ _{max} 257 nm / ε 39950 / pH 7	C 361

Name: Cyclic (adenosine-(3' → 5')-monophosphate-adenosine-(3' → 5')-monophosphate-guanosine-(3' → 5')-monophosphate), sodium salt

Syn.: c[A(3',5')pA(3',5')pG(3',5')p] / Cyclic AMP-AMP-GMP / cAAG / 3'3'3'-cAAG

Description: c[A(3',5')pA(3',5')pG(3',5')p] is a cyclic nucleotide in which two 5'-AMPS units and one 5'-GMP unit are interconnected via 3'-5' phosphodiester bonds to form a cyclic structure.

Properties: c[A(3',5')pA(3',5')pG(3',5')p] is structurally related to c-triAMP (Biolog Cat. No. C 362) which is involved in Type III CRISPR-Cas systems in prokaryotes. c[A(3',5')pA(3',5')pG(3',5')p] was found to be biosynthesized by CD-NTase038 from the *Enterobacter cloacae* complex (strain UCI 50) (WP_032676400, also named EcCdnD02). While c[A(3',5')pA(3',5')pG(3',5')p] is not recognized by STING, it binds to the mammalian cyclic dinucleotide sensor RECON (REductase COntrolling NF-κB) (all data according to Whiteley et al., *Nature*, **567**, 194 - 199 (2019)).

Specification: Crystallized or lyophilized sodium salt. Please keep in mind that equal concentrations of the compound may look 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_{max}.

Purity: Typical analysis is better than 95% (HPLC / UV / 257 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: c[A(3',5')pA(3',5')pG(3',5')p] is soluble in water (≥ 20 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: c[A(3',5')pA(3',5')pG(3',5')p] 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 contact with eyes and skin or ingestion and allow only trained laboratory 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 c[A(3',5')pA(3',5')pG(3',5')p]:

Govande, A.A.; Duncan-Lowey, B.; Eaglesham, J.B.; Whiteley, A.T.; Kranzusch, P.J., *Cell Reports*, **35**, 109206 (2021): "Molecular basis of CD-NTase nucleotide selection in CBASS anti-phage defense".

Whiteley, A.T.; Eaglesham, J.B.; de Oliveira Mann, C.C.; Morehouse, B.R.; Lowey, B.; Nieminen, E.A.; Danilchanka, O.; King, D.S.; Lee A.S.Y.; Mekalanos, J.J.; Kranzusch, P.J., *Nature*, **567**, 194 - 199 (2019): "Bacterial cGAS-like Enzymes Synthesize Diverse Nucleotide Signals"