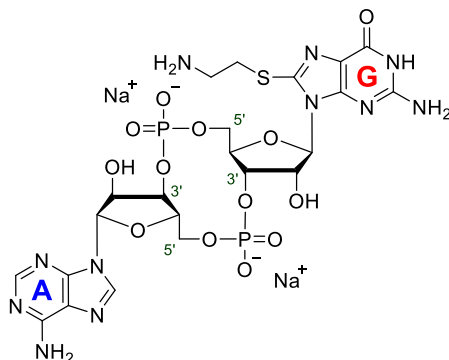


Technical Information about c-(Ap-8-AET-Gp)

Update: August 05, 2019 HJ



Abbreviation: c-(Ap-8-AET-Gp)

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₂₂ H ₂₉ N ₁₁ O ₁₃ P ₂ S (free acid)	[pending]	749.6 (free acid)	λ _{max} 265 nm / ε 23500 / pH 7	C 149

Name: Cyclic (adenosine monophosphate- 8- (2- aminoethylthio)guanosine monophosphate)
Syn.: 8-AET-cGAMP / c[8-AET-G(3',5')pA(3',5')p]

Description: c-(Ap-8-AET-Gp) is an analogue of the hybrid cyclic dinucleotide c-(ApGp) (*aka* cGAMP, Cat. No. C 117) in which the hydrogen in position 8 of the guanine nucleobase is replaced by an aminoethylthio group.

Properties: c-(Ap-8-AET-Gp) can be used as a precursor for modification with fluorophores and other markers. It is also suitable as a ligand for immobilization to yield affinity gels. The parent compound c-(ApGp) (Cat. No. C 117) is considered to play a role in *Vibrio cholerae* pathogenesis and was also reported to stimulate the production of interferon.

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 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 / 265 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: c-(Ap-8-AET-Gp) is soluble in water (≥ 1.1 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-(Ap-8-AET-Gp) is chemically rather stable 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 c-(Ap-8-AET-Gp): c-(Ap-8-AET-Gp) is a new structure which has been synthesized by BIOLOG Life Science Institute for the first time. There are no corresponding references available at present.

Selected References for the Parent Compound c-(ApGp):

Lolicato, M.; Bucchi, A.; Arrigoni, C.; Zucca, S.; Nardini, M.; Schroeder, I.; Simmons, K.; Aquila, M.; DiFrancesco, D.; Bolognesi, M.; Schwede, F.; Kashin, D.; Fishwick, C.W.; Johnson, A.P.; Thiel, G.; Moroni, A., *Nat. Chem. Biol.*, **10**, 457 - 462 (2014): "Cyclic Dinucleotides bind the C-linker of HCN4 to Control Channel cAMP Responsiveness"

Yi, G.; Brendel, V.P.; Shu, C.; Li, P.; Palanathan, S.; Kao, C.C., *PLoS One*, **8**, e77846 (2013): "Single Nucleotide Polymorphisms of Human STING Can Affect Innate Immune Response to Cyclic Dinucleotides"

Schaap, P., *IUBMB Life*, **65**, :897 - 903 (2013): "Cyclic Di-Nucleotide Signaling Enters the Eukaryote Domain"

Danilchanka O.; Mekalanos J.J., *Cell*, **154**, 962 - 970 (2013): "Cyclic Dinucleotides and the Innate Immune Response"

Konno, H.; Konno, K.; Barber, G.N., *Cell*, **155**, 688 - 698 (2013): "Cyclic Dinucleotides Trigger ULK1 (ATG1) Phosphorylation of STING to Prevent Sustained Innate Immune Signaling"

Gao, P.; Ascano, M.; Wu, Y.; Barchet, W.; Gaffney, B.L.; Zillinger, T.; Serganov, A.A.; Liu, Y.; Jones, R.A.; Hartmann, G.; Tuschl, T.; Patel, D.J., *Cell*, **153**, 1094 - 1107 (2013): "Cyclic [G(2',5')pA(3',5')p] Is the Metazoan Second Messenger Produced by DNA-Activated Cyclic GMP-AMP Synthase"

Diner, E.J.; Burdette, D.L.; Wilson, S.C.; Monroe, K.M.; Kellenberger, C.A.; Hyodo, M.; Hayakawa, Y.; Hammond, M.C.; Vance, R.E., *Cell Rep.*, **3**, 1355 - 1361 (2013): "The Innate Immune DNA Sensor cGAS Produces a Noncanonical Cyclic Dinucleotide that Activates Human STING"

Wu, J.; Sun, L.; Chen, X.; Du, F.; Shi, H.; Chen, C.; Chen, Z.J., *Science*, **339**, 826 - 830 (2013): "Cyclic GMP-AMP is an Endogenous Second Messenger in Innate Immune Signaling by Cytosolic DNA"

Sun, L.; Wu, J.; Du, F.; Chen, X.; Chen, Z.J., *Science*, **339**, 786 - 791 (2013): "Cyclic GMP-AMP Synthase is a Cytosolic DNA Sensor That Activates the Type I Interferon Pathway"

Davies, B.W.; Bogard, R.W.; Young, T.S.; Mekalanos, J.J., *Cell*, **149**, 358 - 370 (2012): "Coordinated Regulation of Accessory Genetic Elements Produces Cyclic Di-Nucleotides for *V. cholerae* Virulence"