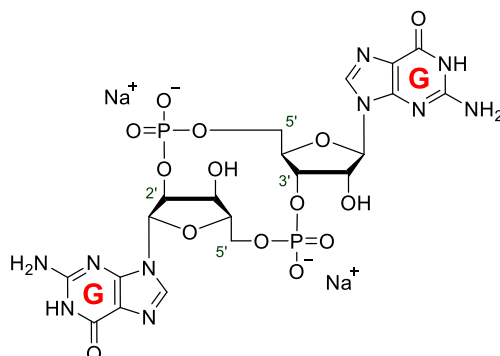


Technical Information about c[G(2',5')pG(3',5')p]

Update: October 10, 2023 ss



Abbreviation: c[G(2',5')pG(3',5')p]

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₂₀ H ₂₄ N ₁₀ O ₁₄ P ₂ (free acid)	[1638241-12-9]	690.4 (free acid)	λ _{max} 253 nm / ε 23700 / pH 7	C 182

Name: Cyclic (guanosine- (2' → 5')- monophosphate- guanosine- (3' → 5')- monophosphate)
Syn.: 2'3'-c-diGMP / 2',5'-3',5'-c-diGMP

Description: In c[G(2',5')pG(3',5')p] two 5'-GMP units are connected via a 2'-5' and a 3'-5' phosphodiester bond to form a cyclic structure.

Properties: c[G(2',5')pG(3',5')p] is a cyclic dinucleotide structurally related to the bacterial second messenger c-diGMP (Cat. No. C 057). In contrast to 3',5'-linked c-diGMP, c[G(2',5')pG(3',5')p] contains two distinct phosphodiester linkages. Cai et al. (2023) discovered c[G(2',5')pG(3',5')p] to be produced in response to viral infection and to be a more potent STING agonist than 2'3'-cGAMP (Cat. No. C 161) in *Drosophila melanogaster*. It also activated a strong antiviral transcriptional response in *Drosophila serrata*.

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 / 253 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: c[G(2',5')pG(3',5')p] is soluble in water (≥ 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: c[G(2',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 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[G(2',5')pG(3',5')p]:

Cai, H.; Li, L.; Slavik, K.M.; Huang, J.; Yin, T.; Ai, X.; Hédelin, L.; Haas, G.; Xiang, Z.; Yang, Y.; Li, X.; Chen, Y.; Wei, Z.; Deng, H.; Chen, D.; Jiao, R.; Martins, N.; Meignin, C.; Kranzusch, P.J.; Imler, J.L., *Immunity*, **56**, 1991 - 2005 (2023): "The Virus-Induced Cyclic Dinucleotide 2'3'-c-di-GMP Mediates STING-Dependent Antiviral Immunity in Drosophila"

Slavik, K.M.; Morehouse, B.R.; Ragucci, A.E.; Zhou, W.; Ai, X.; Chen, Y.; Li, L.; Wei, Z.; Bähre, H.; König, M.; Seifert, R.; Lee, A.S.Y.; Cai, H.; Imler, J.-L.; Kranzusch, P.J., *Nature*, **597**, 109 - 113 (2021): "cGAS-Like Receptors Sense RNA and Control 3'2'-cGAMP Signalling in Drosophila"