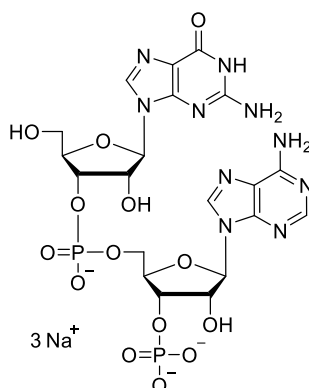


Technical Information about GpAp

Update: October 12, 2023 ss



Abbreviation:

GpAp

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₂₀ H ₂₆ N ₁₀ O ₁₄ P ₂ (free acid)	[17332-08-0]	692.4 (free acid)	λ_{\max} 256 nm / ϵ 25050 / pH 7	G 056

Name: Guanylyl- (3' → 5')- adenosine- 3'- O- phosphate (GpAp / 5'-(rG)p(rA)p-3' / 3'5'-GpAp / 3'3'-cGAMP negative control), sodium salt

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

Properties: GpAp is a synthetic linear dinucleotide. Since specific PDEs in *Vibrio cholerae* linearize the bacterial second messenger 3'3'-cGAMP (c-(ApGp), Cat. No. C 117) into 5'-pApG (Gao et al. 2015), the synthetic GpAp may serve as a negative control for 3'3'-cGAMP. GpAp does not bind to the c-diGMP-I riboswitch (Smith et al. 2012).

Specification: Crystallized or lyophilized sodium salt. The free acid or other salt forms are available upon request. 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 / 256 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: GpAp is soluble in water (≥ 9 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: GpAp is chemically rather stable. 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 GpAp:

Gao, J.; Tao, J.; Liang, W.; Zhao, M.; Du, X.; Cui, S.; Duan, H.; Kan, B.; Su, X.; Jiang, Z., *Cell Res.*, **25**, 539 - 550 (2015): "Identification and Characterization of Phosphodiesterases that Specifically Degrade 3'3'-cyclic GMP-AMP"

Smith, K.D.; Lipchock, S.V.; Strobel, S.A., *Biochemistry*, **51**, 425 - 432 (2012): "Structural and Biochemical Characterization of Linear Dinucleotide Analogs Bound to the c-di-GMP-I Aptamer"