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Technical Information about GpA

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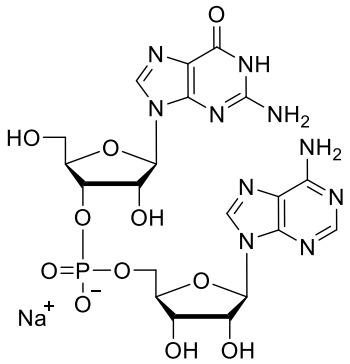

Abbreviation: **GpA**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat.No.
$C_{20}H_{25}N_{10}O_{11}P$ (free acid)	[103192-56-9]	612.5 (free acid)	λ_{max} 256 nm / ε 25050 / pH 7	G 040

Name: Guanylyl- (3' → 5')- adenosine (GpA), sodium salt

Description: GpA is a dinucleoside monophosphate in which the 3'- hydroxy group of the guanosine moiety is connected to the 5'- hydroxy group of the adenosine moiety by a phosphodiester bond.

Properties: GpA can be useful in kinetic studies on RNA polymerases or ribonucleases. GpA is a metabolite of the linear RNA dinucleotide pGpA (Cat. No. P 120) and GpAp (Cat. No. G 056).

Specification: Lyophilized or crystallized 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 / 256 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: GpA is soluble in water (≥ 8 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: GpA 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 GpA:

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

Honda, A.; Mizumoto, K.; Ishihama, A., *J. Biol. Chem.*, **261**, 5987 - 5991 (1986): "RNA Polymerase of Influenza Virus. Dinucleotide-Primed Initiation of Transcription at Specific Positions on Viral RNA"

Osterman, H.L.; Walz Jr, F.G., *Biochemistry*, **17**, 4124 - 4130 (1978): "Subsites and Catalytic Mechanism of Ribonuclease T1: Kinetic Studies Using GpA, GpC, GpG, and GpU as Substrates"

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