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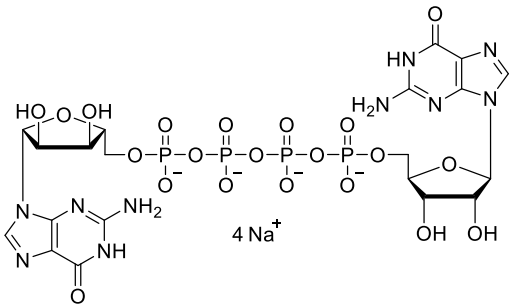
# Technical Information about
# $P^1,P^4$-Di-(guanosine-5')-tetraphosphate ( $Gp_4G$ / GppppG )

Update: April 16, 2019 HJ




**Abbreviation:** **$Gp_4G$ / GppppG**

| Formula | CAS No. | Molecular Weight | UV | BIOLOG Cat.No. |
|---|---|---|---|---|
| $C_{20}H_{28}N_{10}O_{21}P_4$ (free acid) | [4130-19-2] | 868.4 (free acid) | $\lambda_{max}$ 252 nm / ε 24300 / pH 7 | D 119 |

**Name:** $P^1$, $P^4$- Di- (guanosine- 5')- tetraphosphate / $P^1$- (5'- Guanosyl)- $P^4$- (5'- guanosyl)- tetraphosphate

**Description:** In $Gp_4G$ two guanosine moieties are linked via their 5' positions by four phosphate groups.

**Properties:** $Gp_4G$ activates purinergic receptors and modulates several biological targets.

**Specification:** Lyophilized or crystallized sodium salt. The free acid or other salt forms are available upon request. Equal concentrations of $Gp_4G$ can appear very 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 $\lambda_{max}$.

**Purity:** Typical analysis is better than 95% (HPLC / UV / 252 nm). The product is not sterile and has not been tested for endotoxins.

**Solubility:** $Gp_4G$ has good solubility in water and aqueous buffers (≥ 4 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:** $Gp_4G$ 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 $Gp_4G$:**


Sillero, M.A.; de Diego, A.; Osorio, H.; Sillero, A., *Eur. J. Biochem.*, **269**, 5323 - 5329 (2002): "Dinucleoside Polyphosphates Stimulate the Primer Independent Synthesis of Poly(A) Catalyzed by Yeast Poly(A) Polymerase"

Lewis, C.J.; Gitterman, D.P.; Schlüter, H.; Evans, R.J., *Br. J. Pharmacol.*, **129**, 124 - 130 (2000): "Effects of Diadenosine Polyphosphates (Ap(n)As) and Adenosine Polyphospho Guanosines (Ap(n)Gs) on Rat Mesenteric Artery P2X Receptor Ion Channels"

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