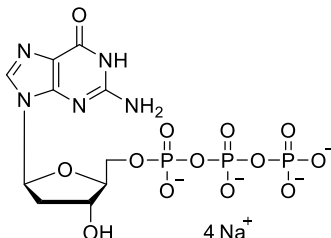


## Technical Information about $\beta$ -L-dGTP

Update: November 30, 2022 ss



**Abbreviation:**  $\beta$ -L-dGTP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>10</sub> H <sub>16</sub> N <sub>5</sub> O <sub>13</sub> P <sub>3</sub> (for free acid)	[198639-09-7]	507.2 (for free acid)	$\lambda_{\text{max}}$ 252 nm / $\epsilon$ 13500 / pH 7	G 037

**Name:** Guanine- 2'- deoxy-  $\beta$ - L- ribofuranosyl- 5'- O- triphosphate, sodium salt

**Description:**  $\beta$ -L-dGTP is the mirror image version of naturally occurring  $\beta$ -D-dGTP, where the guanine nucleobase is connected to 2'-deoxy- $\beta$ -L-ribose.

**Properties:**  $\beta$ -L-dGTP acts as an inhibitor of human telomerase and is a nucleoside triphosphate precursor for the formation of highly nuclease-resistant L-RNA. L-RNA is used and explored for biological applications like aptamers, molecular beacons and drug nanocarriers.  $\beta$ -L-dGTP can also be useful for research into dGTP-dependent receptor proteins.

**Specification:** Aqueous solution of the sodium salt (10 mM). Other salt forms of  $\beta$ -L-dGTP are available upon request. Micromolar quantities are determined by UV at  $\lambda_{\text{max}}$ . When opening the tube please make sure that no liquid is lost within the cap. A short spin-down in a bench centrifuge is recommended before use.

**Purity:** Typical purity is better than 95% (HPLC / UV / 252 nm) at time of quality control and packing. However, actual purity depends on storage and transport conditions. The product is not sterile and has not been tested for endotoxins.

**Stability and Storage:**  $\beta$ -L-dGTP is most stable when stored as aqueous solution in the freezer (-20° Celsius necessary, -70° recommended), however, at ambient temperature the compound slowly starts to decompose. Thus, in order to maintain its original high quality it is recommended to allow thawing only before using the product. If you will not use up the vial with one application, please aliquot the contents of the vial in order to avoid repeated freeze/thaw cycles for the rest. When making such aliquots be sure to operate quickly and to freeze the vial again as soon as possible.

**Toxicity and Safety:** Since triphosphates have multiple tasks in every organism, it is very likely that dGTP analogues will interfere with many cell regulation processes *in vivo*. However, due to the rather small quantities to work with, no health hazards have been reported. Nevertheless, 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 Reference for $\beta$ -L-dGTP:

Gallois-Montbrun, S.; Faraj, A.; Seclaman, E.; Sommadossi, J. P.; Deville-Bonne, D.; Véron, M., *Biochem. Pharmacol.*, **68**, 1749 - 1756 (2004): "Broad Specificity of Human Phosphoglycerate Kinase for Antiviral Nucleoside Analogs"

Yamaguchi, T.; Yamada, R.; Tomikawa, A.; Shudo, K.; Saito, M.; Ishikawa, F.; Saneyoshi, M., *Nucleosides Nucleotides Nucleic Acids*, **20**, 1243 - 1246 (2001): "Inhibition of Human Telomerase"

Yamaguchi, T.; Yamada, R.; Tomikawa, A.; Shudo, K.; Saito, M.; Ishikawa, F.; Saneyoshi, M., *Biochem. Biophys. Res. Commun.*, **279**, 475 - 481 (2000): "Recognition of 2'-deoxy-l-ribonucleoside 5'-triphosphates by Human Telomerase"