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Technical Information about 3'-O-Ac-dGTP

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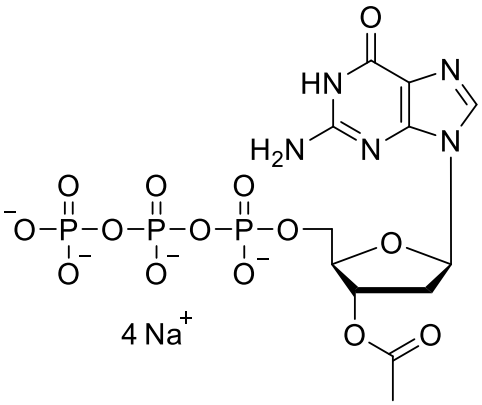

Abbreviation: **3'-O-Ac-dGTP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{12}H_{18}N_5O_{14}P_3$ (free acid)	[90290-77-0]	549.2 (free acid)	λ_{max} 252 nm / ε 13500 / pH 7	A 278

Name: 3'- O- Acetyl- 2'- deoxyguanosine- 5'- O- triphosphate

Description: 3'-O-Ac-dGTP is an analogue of the parent nucleotide 2'-deoxyguanosine-5'-O-triphosphate (dGTP) in which the 3'-hydroxy group is esterified by acetic acid.

Properties: Analogue of dGTP with blocked 3'-hydroxy function, which can be used as a transient, pH-sensitive chain terminator during DNA polymerization. The acetyl group of 3'-O-Ac-dGTP is sensitive towards alkaline conditions and can be split off at pH >12.5 within 30 min. to allow further subsequent polymerization steps.

Specification: Aqueous solution of the sodium salt (10 mM). Other salt forms of 3'-O-Ac-dGTP are available upon request. Micromolar quantities are determined by UV at $\lambda_{max.}$ 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: 3'-O-Ac-dGTP is most stable when stored as aqueous solution in the freezer (-20° Celsius necessary, -80° 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 nucleoside 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!

P.t.o.

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Selected References for 3'-O-Ac-dGTP:

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Hutter, D.; Kim, M.-J.; Karalkar, N.; Leal, N.A.; Chen, F.; Guggenheim, E.; Visalakshi, V.; Olejnik, J., Benner, S.A., *Nucleosides, Nucleotides Nucleic Acids*, **29**, 879 – 895 (2010): "Labeled Nucleoside Triphosphates with Reversibly Terminating Aminoalkoxyl Groups"

Guo, J.; Xu, N.; Li, Z.; Zhang, S.; Wu, J.; Kim, D.H.; Marma, M.S.; Meng, Q.; Cao, H.; Li, X.; Shi, S.; Yu, L.; Kalachikov, S.; Russo, J.J.; Turro, N.J., Ju, J., *Proc. Nat. Acad. Sci. USA*, **105**, 9135 – 9150 (2008): "Four-color DNA sequencing with 3'-*O*-modified nucleotide reversible terminators and chemically cleavable fluorescent dideoxynucleotides"

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