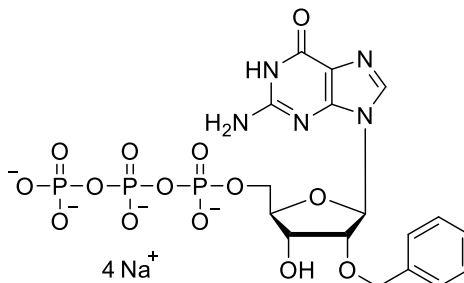


Technical Information about 2'-O-Bn-GTP

Update: November 14, 2022 ss



Abbreviation: 2'-O-Bn-GTP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₇ H ₂₂ N ₅ O ₁₄ P ₃ (for free acid)	[1610778-74-9]	613.3 (for free acid)	λ _{max} 252 nm / ε 13500 / pH 7	B 183

Name: 2'- O- Benzylguanosine- 5'- O- triphosphate, sodium salt

Description: 2'-O-Bn-GTP is an analogue of guanosine-5'-O-triphosphate (GTP) where the ribose 2'-hydroxy group has been modified by an ether bond to a benzyl group.

Properties: 2'-O-Bn-GTP has a significantly improved stability against esterases compared to other 2'/3'-esters of the ribose like MANT-GTP (Cat. M 032) and is a potential inhibitor of various adenyl cyclase isoforms and soluble guanylyl cyclase (sGC).

Specification: Aqueous solution of the sodium salt (10 mM). Other salt forms of 2'-O-Bn-GTP are available upon request. Micromolar quantities are determined by UV at λ_{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: 2'-O-Bn-GTP 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 GTP 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 2'-O-Bn-GTP: 2'-O-Bn-GTP is a new product and there are currently no corresponding references available.

Selected References for Related GTP Analogues and Nucleoside Triphosphate Analogues:

Dove, S.; Danker, K. Y.; Stasch, J. P.; Kaever, V.; Seifert, R., *Mol. Pharmacol.*, **85**, 598 - 607 (2014): "Structure/Activity Relationships of (M)ANT- and TNP-Nucleotides for Inhibition of Rat Soluble Guanylyl Cyclase α1β1"

Pinto, C.; Lushington, G. H.; Richter, M.; Gille, A.; Geduhn, J.; König, B.; Mou, T. C.; Sprang, S. R.; Seifert, R., *Biochem. Pharmacol.*, **82**, 358 - 370 (2011): "Structure-Activity Relationships for the Interactions of 2'- and 3'-(O)-(N-methyl)anthraniloyl-Substituted Purine and Pyrimidine Nucleotides with Mammalian Adenyl cyclases"

Geduhn, J.; Dove, S.; Shen, Y.; Tang, W. J.; König, B.; Seifert, R., *J. Pharmacol. Exp. Ther.*, **336**, 104 - 115 (2011): "Bis-halogen-anthraniloyl-Substituted Nucleoside 5'-Triphosphates as Potent and Selective Inhibitors of *Bordetella pertussis* Adenylyl Cyclase Toxin"

Gille, A.; Lushington, G. H.; Mou, T. C.; Doughy, M. B.; Johnson, R. A.; Seifert, R., *J. Biol. Chem.*, **279**, 19955 - 19969 (2004): "Differential Inhibition of Adenylyl Cyclase Isoforms and Soluble Guanylyl Cyclase by Purine and Pyrimidine Nucleotides"