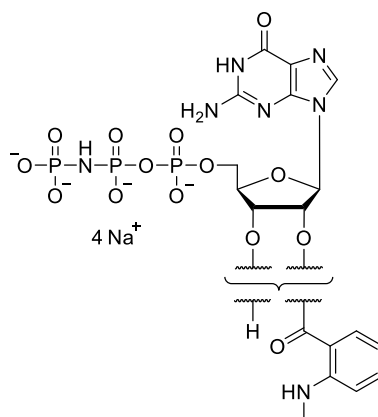


Technical Information about MANT-GppNHp

Update: April 11, 2019 нп



Abbreviation:

MANT-GppNHp

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₈ H ₂₄ N ₇ O ₁₄ P ₃ (free acid)	[148821-01-6]	655.4 (free acid)	λ_{\max} 252 nm / ϵ 21500 / pH 8	M 047

Name: 2'- / 3'- O- (N'- Methylanthraniloyl)guanosine- 5'- O- [(β , γ)- imidotriphosphate]

Description: MANT-GppNHp is a non-hydrolysable analogue of GTP, in which the oxygen atom bridging the β - to the γ -phosphate is replaced by a nitrogen atom. In addition, either the ribose 2'-hydroxy or the 3'-hydroxy group is esterified by the fluorescent methylanthranilic acid.

Properties: Fluorescent analogue with λ_{exc} 350 nm and λ_{em} 442 nm, useful for research into GTP-dependent receptor proteins. The MANT fluorophore has a certain sensitivity for its environment and can change its spectral properties upon binding. Potent inhibitor of adenylate cyclase.

Specification: Aqueous solution of the sodium salt (10 mM). Other salt forms of MANT-GppNHp 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 90% (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: MANT-GppNHp 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 GTP has important 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 References for MANT-GppNHp:

Wang, J.L.; Guo, J.-X.; Zhang, Q.-Y.; Wu, J.J.-Q.; Seifert, R.; Lushington, G.H., *Bioorg. Med. Chem.*, **15**, 2993 - 3002 (2007): "A Conformational Transition in the Adenylyl Cyclase Catalytic Site Yields Different Binding Modes for Ribosyl-Modified and Unmodified Nucleotide Inhibitors"

Zhang, Z.; Rehmann, H.; Price, L.S.; Riedl, J.; Bos, J.L., *J. Biol. Chem.*, **280**, 33200 - 33205 (2005): "AF6 Negatively Regulates Rap1-induced Cell Adhesion"

Gille, A.; Seifert, R., *J. Biol. Chem.*, **278**, 12672 - 12679 (2003): "2'(3')-O-(N-Methylantraniloyl)-substituted GTP Analogs: A Novel Class of Potent Competitive Adenylyl Cyclase Inhibitors"

Herrmann, C; Martin, G.A.; Wittinghofer, A., *J. Biol. Chem.*, **270**, 2901 - 2905 (1995): "Quantitative Analysis of the Complex between p21^{ras} and the Ras-binding Domain of the Human Raf-1 Protein Kinase"