Technical Information about MANT-c-diGMP

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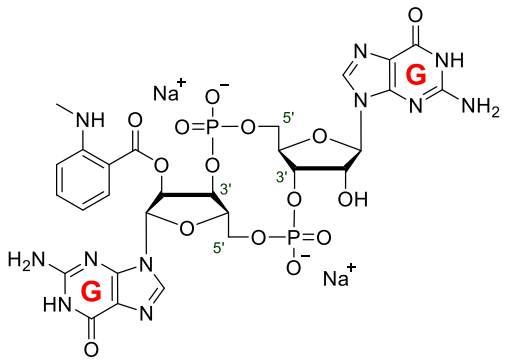

Abbreviation: **MANT-c-diGMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{28}H_{31}N_{11}O_{15}P_2$	[1384529-33-2]	823.6 (free acid)	λmax 252nm / ε 31500 / pH 8	M 102

Name: 2'- O- (N'- Methylanthraniloyl)- cyclic diguanosine monophosphate

Description: In MANT-c-diGMP two 5'-GMP units are connected to form a cyclic structure. In addition, one of the two ribose 2'-hydroxy groups is esterified by the fluorescent methylisatoic acid.

Properties: MANT-c-diGMP is a fluorescent analogue of the bacterial second messenger c-diGMP (BIOLOG Cat. No. C 057). The MANT fluorophore (λ_{exc} 355 nm, λ_{em} 448 nm) has a certain sensitivity for its environment and can change its spectral properties upon binding.

Specification: Crystallized or lyophilized sodium salt. Please keep in mind that equal amounts of the compound 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 λ_{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: MANT-c-diGMP is soluble in water (≥ 2.5 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.

HPLC Applications: Similar to the parent compound c-diGMP, MANT-c-diGMP can form aggregates in water sometimes leading to complex HPLC elution profiles. However, Hyodo et al. (2005) reported (c-diGMP) monomer formation upon addition of NaCl to a final concentration of > 154 mM (0.9%), resulting in highly reproducible HPLC analytics of the compound. **Reference:** Hyodo, M.; Sato, Y.; Hayakawa, Y.; Karaolis, D.K., *Nucleic Acids Symp. Ser. (Oxf.)*, **49**, 117 - 118 (2005): "Chemical Behavior of Bis(3'-5')diguanylic Acid in Aqueous Solutions"

Stability and Storage: MANT-c-diGMP is chemically rather stable and does not need special care during handling or shipment. Nevertheless, the compound should be protected from light and 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!

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Selected References for MANT-c-diGMP:

Sharma, I.M.; Dhanaraman, T.; Mathew, R.; Chatterji, D., *Biochemistry*, **51**, 5443 - 5453 (2012): "Synthesis and Characterization of a Fluorescent Analogue of Cyclic Di-GMP"

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