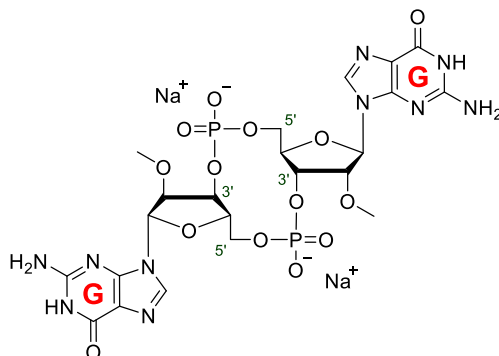


Technical Information about 2',2''-Di-O-Me-c-diGMP

Update: April 30, 2019 HU



Abbreviation: 2',2''-Di-O-Me-c-diGMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₂₂ H ₂₈ N ₁₀ O ₁₄ P ₂ (free acid)	[849214-02-4]	718.5 (free acid)	λ _{max} 253 nm / ε 23700 / pH 7	D 136

Name: 2'-, 2''- O- (Di- methyl)- cyclic diguanosine monophosphate

Description: In 2',2''-Di-O-Me-c-diGMP two 5'-GMP units are connected to form a cyclic structure. In addition, both ribose 2'-hydroxy groups have been methylated.

Properties: 2',2''-Di-O-Me-c-diGMP is an analogue of the bacterial second messenger c-diGMP (Cat. No. C 057) which selectively binds the c-diGMP class II riboswitch over the class I riboswitch (Smith et al. 2011). It can be useful for discriminating between these two classes of c-diGMP-binding RNAs and for studying RNA-based c-diGMP signalling.

Specification: Lyophilized or crystallized sodium salt. Other salt forms are available upon request. Equal concentrations of 2',2''-Di-O-Me-c-diGMP 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 253 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 2',2''-Di-O-Me-c-diGMP is soluble to at least 3 mM in water, 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.

Stability and Storage: 2',2''-Di-O-Me-c-diGMP is chemically relatively stable. Nevertheless, the compound should be stored in the freezer (-20° Celsius necessary, -80° recommended), 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!

Selected References for 2',2''-Di-O-Me-c-diGMP:

Zhou, J.; Watt, S.; Wang, J.; Nakayama, S.; Sayre, D.A.; Lam, Y.; Lee, V.T.; Sintim, H.O., *Bioorg. Med. Chem.*, **21**, 4396 - 4404 (2013): "Potent Suppression of c-di-GMP Synthesis via I-Site Allosteric Inhibition of Diguanylate Cyclases with 2'-F-c-di-GMP"

Smith, K.D.; Shanahan, C.A.; Moore, E.L.; Simon, A.C.; Strobel, S.A., *Proc. Natl. Acad. Sci. USA*, **108**, 7757 - 7762 (2011): "Structural Basis of Differential Ligand Recognition by Two Classes of Bis-(3'-5')-Cyclic Dimeric Guanosine Monophosphate-Binding Riboswitches"