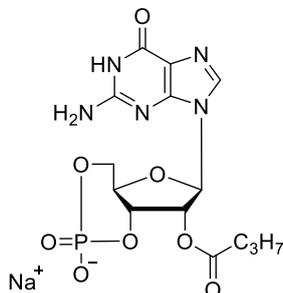


Technical Information about 2'-O-Monobutryl-cGMP

Update: July 10, 2018 HU



Abbreviation: **2'-O-MB-cGMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₄ H ₁₇ N ₅ O ₈ P·Na	[58329-72-9]	437.3	λ _{max} 252 nm / ε 13500 / pH 7	M 006

Name: 2'-O- Monobutrylguanosine- 3', 5'- cyclic monophosphate

Description: 2'-O-MB-cGMP is an analogue of the parent compound cyclic GMP in which the hydroxy group in position 2' of the ribose is esterified by butyric acid.

Properties: 2'-O-MB-cGMP is a lipophilic precursor of cyclic GMP with significantly higher membrane permeability. During metabolic activation by esterases cGMP and butyrate are released. Please note that the released butyrate induces a lot of effects which are often interfering with second messenger pathways. That means, that for each experiment with 2'-O-MB-cGMP the influence of butyrate has to be determined in control runs with sodium butyrate or tributyrin.

Like cGMP itself 2'-O-MB-cGMP potently inhibits cGMP-inhibited phosphodiesterase type III

Specification: Lyophilized or crystallized sodium salt. Other salt forms are available upon request. Equal concentrations of 2'-O-MB-cGMP can appear very different in volume depending on 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 97% (HPLC / UV / 252 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 2'-O-MB-cGMP has sufficient solubility in water or buffer for most applications. When opening the tube please make sure that no substance is lost within the cap. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing.

Stability and Storage: 2'-O-MB-cGMP is chemically rather stable and does not need special care during handling or shipment. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form.

Toxicity and Safety: Since cGMP has multiple tasks in every organism, it is very likely that lipophilic cGMP 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-MB-cGMP:

For an extended reference list please visit our website <http://www.biolog.de>.

Hebert, M.C.; Schwede, F.; Jastorff, B.; Cote, R.H., *J. Biol. Chem.*, **273**, 5557 - 5565 (1998): "Structural Features of the Noncatalytic cGMP Binding Sites of Frog Photoreceptor Phosphodiesterase Using cGMP Analogs"