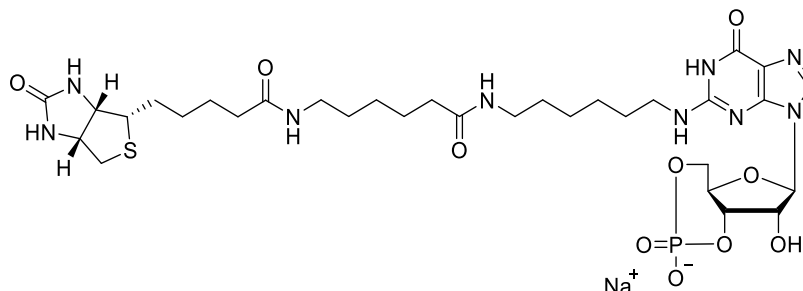


Technical Information about 2-Biotin-14-cGMP

Update: May 5, 2022 IS



Abbreviation: 2-Biotin-14-cGMP / 2-[Biotin]-AH-cGMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₃₂ H ₄₉ N ₉ O ₁₀ PS·Na	[pending]	805.8	λ _{max} 255 nm / ε 15000 est. / pH 7	B 032

Name: N²- (6- (6- [Biotinyl]aminohexanoyl)aminohexyl)guanosine- 3', 5'- cyclic monophosphate

Description: 2-Biotin-14-cGMP is an analogue of the natural signal molecule cyclic GMP where a biotin moiety with a 14 atom spacer unit has been attached to the amino group in position 2 of the guanine nucleobase.

Properties:

- Analogue of cyclic GMP with biotin conjugate most probably suitable as tracer in immunoassays for the measurement of cGMP concentrations.
- Biotin as primary probe allows for flexible end point determinations with commercially available labelled streptavidin derivatives.

In spite of its modification, 2-Biotin-14-cGMP could be still sensitive against phosphodiesterases. For corresponding PDE-resistant structures, such as phosphorothioate-modified congeners or other types of spacers please inquire.

Specification: Crystallized or lyophilized sodium salt. Other salt forms are available upon request. Please keep in mind that equal concentrations of the compound may look 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 98% (HPLC / UV / 255 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: Due to its increased lipophilicity the solubility of 2-Biotin-14-cGMP in water or buffer is limited to approximately 2-3 mM. 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-Biotin-14-cGMP is chemically rather stable. 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 its 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!

Reference for 2-Biotin-14-cGMP:

Donaldson, L.; Meier, S.; Gehring, C., *Cell Commun. Signal*, **14**(1):10 (2016): "The Arabidopsis Cyclic Nucleotide Interactome"

Reference for a related, but not identical biotinylated cGMP analogue:

Dressendörfer, R.A.; Heim, J.-M.; Gerzer, R.; Strasburger, C.J., *J. Immunoassay*, **16**, 37 - 53 (1995): "A Non-Isotopic Immunoassay for Guanosine 3', 5'- cyclic monophosphate Using a Cyclic GMP-Biotin Conjugate as Tracer"