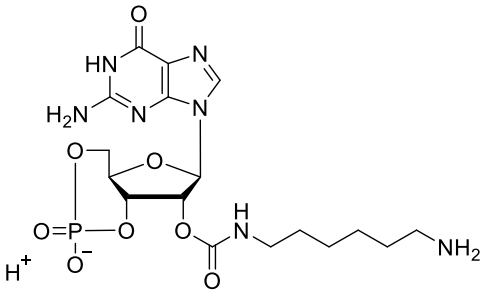
BIOLOG - LIFE SCIENCE INSTITUTE -

Technical Information about 2'-AHC-cGMP

Update: August 23, 2018 HJ



Abbreviation: **2'-AHC-cGMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{17}H_{26}N_7O_8P$	[1262749-60-9]	487.4	λ_{max} 252 nm / ε 13500 / pH 7	A 048

Name: 2'- O- (6- Aminohexylcarbamoyl)guanosine- 3', 5'- cyclic monophosphate

Description: 2'-AHC-cGMP is an analogue of the natural signal molecule cyclic GMP in which a hexyl spacer with a terminal amino group has been attached to the ribose 2'-hydroxy group by a carbamate bond.

Properties:

- **Analogue of cyclic GMP prepared to be coupled to various structures including proteins,**
- **ligand for immobilization to yield affinity gels,**
- **also suitable for conjugation with fluorescent dyes or labels.**

In spite of its modification, 2'-AHC-cGMP could still be sensitive against phosphodiesterases. As a corresponding PDE-resistant phosphorothioate form Sp-2'-AHC-cGMPS (Cat. No. A 067) is offered.
2'-AHC-cGMP is also available as a ligand immobilized to agarose (2'-AHC-cGMP-Agarose, Cat. No. A 059) and with a shorter spacer (2'-AEC-cAMP/2'-EDA-cAMP, Cat. No. A 075). BIOLOG also offers 2'-O-monosuccinyl-cGMP (Cat. No. M 015) which has a terminal carboxy group for reaction with amino and hydroxy group-containing structures.

Specification: Crystallized or lyophilized solid. Please keep in mind that equal concentrations 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. Micro molar quantities are determined by UV at λ_{max}.

Purity: Typical analysis is better than 98% (HPLC / UV / 252 nm). The product is not sterile and has not been tested for endotoxins.

Stability and Storage: 2'-AHC-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.

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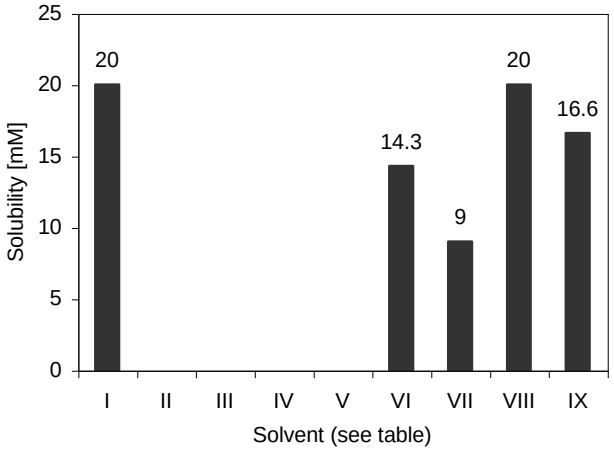
Solubility: Detailed information on the solubility of 2'-AHC-cGMP in water and various buffers are listed in the solubility chart below. Concentrations have been tested at ambient temperature and can be considered as minimum concentrations usually obtainable. When opening the tube please make sure that no substance is lost within the cap. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing.

No.	Solvent	Solubility [mM]
I	H_2O	20
II	DMSO	0
III	DMF	0
IV	Ethanol 96%	0
V	Methanol	0
VI	PBS, pH 7.4	14.3
VII	100 mM Na_2HPO_4, pH 7.0	9
VIII	25 mM Hepes/NaOH, pH 7.2	20
IX	25 mMTris/HCl, pH 7.4	16.6



Toxicity and Safety: Since cyclic GMP has multiple tasks in every organism, it is very likely that 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 Related Structures:

Corrie, J.E.T.; Pizza, C.; Makwana, J.; King, R.W., *Prot. Expr. Purif.*, **3**, 417 - 420 (1992): "Preparation and Properties of an Affinity Support for Purification of Cyclic AMP Receptor Protein from Escherichia coli"