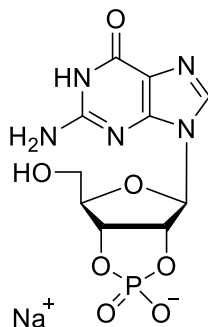


## Technical Information about Guanosine- 2', 3'- cyclic monophosphate

Update: August 27, 2021 AI



**Abbreviation:** **2',3'-cGMP**

| Formula  | CAS No.      | Molecular Weight | UV                                       | BIOLOG Cat. No. |
|--|--------------|------------------|--|-----------------|
| C <sub>10</sub> H <sub>11</sub> N <sub>5</sub> O <sub>7</sub> P·Na | [15718-49-7] | 367.2            | λ <sub>max</sub> 252 nm / ε 13500 / pH 7 | G 025           |

**Name:** Guanosine-2', 3'-cyclic monophosphate, sodium salt

**Description:** 2',3'-cGMP is a cyclic phosphate ester of guanosine in which both the 2'- and the 3'-hydroxy groups are esterified by phosphoric acid.

**Properties:** 2',3'-cGMP is a positional isomer of the natural second messenger 3',5'-cGMP (BIOLOG Cat. No. G 001). By analysing urinary excretion rates in mice, 2',3'-cGMP was found to exist in mammals under physiological conditions (Jackson et al. 2019).

**Specification:** Lyophilized or crystallized sodium salt. Other salt forms are available upon request. Equal concentrations of 2',3'-cGMP 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<sub>max</sub>.

**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',3'-cGMP is soluble in water (≥ 130 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.

**Stability and Storage:** 2',3'-cGMP has sufficient stability at room temperature 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 nucleotides have multiple tasks in every organism it is possible that corresponding 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 References for 2',3'-cGMP:

Jackson, E.K.; Mi, Z.; Janesko-Feldman, K.; Jackson, T.C.; Kochanek, P.M., *Am. J. Physiol. Regul. Integr. Comp. Physiol.*, **316**, R783 - R790 (2019): "2',3'-cGMP Exists In Vivo and Comprises a 2',3'-cGMP-Guanosine Pathway"

Müller, H.W.; Clapshaw, P.A.; Seifert, W., *FEBS Lett.*, **131**, 37 - 40 (1981): "Two Molecular Forms of the Isolated Brain Enzyme 2', 3'-cyclic Nucleotide 3'-phosphodiesterase"

Francis, S.H; Lincoln, T.M.; Corbin, J.D., *J. Biol. Chem.*, **255**, 620 - 626 (1980): "Characterization of a Novel cGMP Binding Protein from Rat Lung"