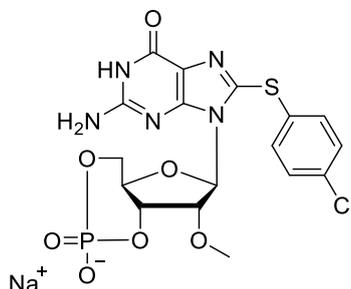


Technical Information about 8-(4-Chlorophenylthio)-2'-O-methyl-cGMP

Membrane-permeant PKG- and Epac-inactive cGMP analogue

Update: January 19, 2021 HU



Abbreviation: 8-pCPT-2'-O-Me-cGMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₇ H ₁₆ ClN ₅ O ₇ PS·Na	[625112-42-7]	523.8	λ _{max} 276 nm / ε 21500 / pH 7	C 048

Name: 8-(4-Chlorophenylthio)-2'-O-methylguanosine-3',5'-cyclic monophosphate

Description: 8-pCPT-2'-O-Me-cGMP is an analogue of the natural signal molecule cyclic GMP in which the hydrogen in position 8 of the heterocyclic nucleobase is replaced by the lipophilic 4-chlorophenylthio moiety. In addition, the ribose 2'-hydroxy group has been methylated.

Properties: 8-pCPT-2'-O-Me-cGMP is a membrane-permeant analogue of cGMP which neither activates protein kinase G (PKG) nor the exchange protein directly activated by cyclic AMP (Epac). It can thus be used as a control. The high lipophilicity of 8-pCPT-2'-O-Me-cGMP allows for good membrane permeability in most biosystems, and its increased resistance towards phosphodiesterases prevents from rapid hydrolysis.

Specification: Crystallized or lyophilized sodium salt. The free acid or 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 / 276 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 8-pCPT-2'-O-Me-cGMP has sufficient solubility in water and aqueous buffers. 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: 8-pCPT-2'-O-Me-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. Since UV radiation develops a fluorescent impurity, which can disturb in fluorescence assays, avoid bright light during handling and experiments.

Toxicity and Safety: Since cyclic GMP 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 8-pCPT-2'-O-Me-cGMP:

Haag, S.; Warnken, M.; Juergens, U.R.; Racké, K., *Naunyn Schmiedebergs Arch. Pharmacol.*, **378**, 617 - 630 (2008): "Role of Epac1 in Mediating Anti-proliferative Effects of Prostanoid EP2 Receptors and cAMP in Human Lung Fibroblasts"