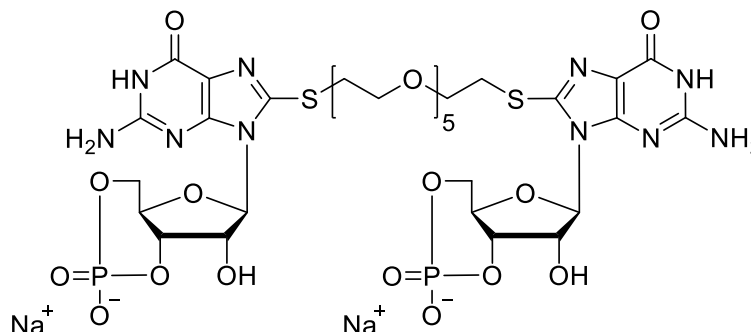


Technical Information about cGMP-8-T-(EO)₅-ET-8-cGMP

Update: July 1, 2019 HGG



Abbreviation: cGMP-8-T-(EO)₅-ET-8-cGMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat.No.
C ₃₂ H ₄₄ N ₁₀ O ₁₉ P ₂ S ₂ · Na ₂	[2156612-58-5]	1044.8	λ _{max} 274 nm / ε 24660 / pH 7	G 031

Name: Guanosine- 3', 5'- cyclic monophosphate- [8- thio- (pentaethoxy)- ethylthio- 8]- guanosine- 3', 5'- cyclic monophosphate (cGMP-8-T-(EO)₅-ET-8-cGMP)

Description: cGMP-8-T-(EO)₅-ET-8-cGMP is a polymer-linked dimeric (PLD) cGMP analogue in which two cGMP units are linked by a spacer based on 5 ethylene oxide units via thioethers at the C8 positions.

Properties: Membrane-permeant cGMP dimer with enhanced PKG activation properties by addressing two binding sites simultaneously with a single molecule. Activation constants of cGMP-8-T-(EO)₅-ET-8-cGMP *in vitro* on purified cGMP-dependent protein kinase (PKG) isozymes were measured to be in the range of < 1 nM (PKG Iβ and PKGII) and < 0.8 nM (PKG Ia), respectively. The compound significantly reduced proliferation and migration combined with increased cell death in two melanoma cell lines (all data according to Vighi et al. 2017). In the colon cancer cell line HT-29, treatment with cGMP-8-T-(EO)₅-ET-8-cGMP led to a significant reduction of cell viability (Hoffmann et al. 2017).

Specification: Lyophilized or crystallized sodium salt. Please keep in mind that equal amounts of the compound may look different in volume. 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 weight.

Purity: Typical analysis is estimated to be better than 95% (HPLC / UV / 274 nm). The remaining uncertainty is due to the polydispers nature of the PEG spacer. The product is not sterile and has not been tested for endotoxins.

Solubility: cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP is soluble in water, 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: cGMP-8-T-(EO)₅-ET-8-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: 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!

References for cGMP-8-T-(EO)₅-ET-8-cGMP:

1. Vighi, E.; Rentsch, A.; Henning, P.; Comitato, A.; Hoffmann, D.; Bertinetti, D.; Bertolotti, E.; Schwede, F.; Herberg, F.W.; Genieser, H.-G.; Marigo, V., *Oncotarget*, **9**, 5301 - 5320 (2017): "New cGMP analogues restrain proliferation and migration of melanoma cells"
2. Hoffmann, D.; Rentsch, A.; Vighi, E.; Bertolotti, E.; Comitato, A.; Schwede, F.; Genieser, H.-G.; Marigo, V., *Eur. J. Med. Chem.*, **141**, 61 - 72 (2017): "New dimeric cGMP analogues reduce proliferation in three colon cancer cell lines"