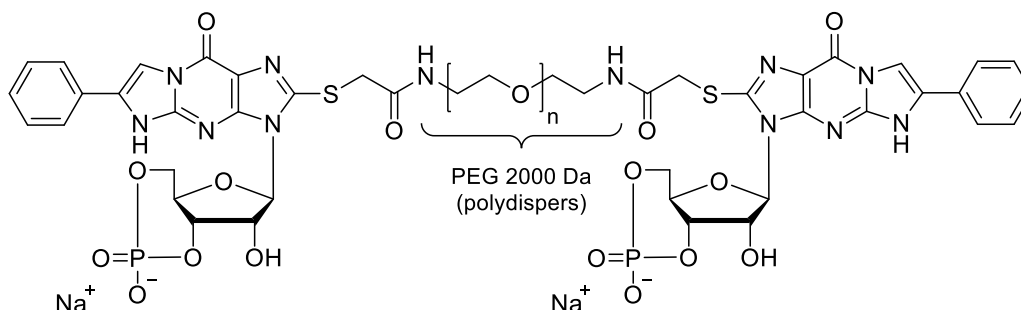


Technical Information about PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET

Update: June 26, 2019 HGG



Abbreviation: PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET cGMP

Average Formula	CAS No.	Average Molecular Weight	UV	BIOLOG Cat.No.
~ C ₁₃₀ H ₂₁₆ N ₁₂ O ₆₀ P ₂ S ₂ for free acid	[pending]	~ 3,033 for free acid	λ _{max} 272 nm / ε 72000 / pH 7	P 059

Name: β- Phenyl- 1, N²-ethenoguanosine- 3', 5'-cyclic monophosphate- [8- thiomethylamido- (PEG pd 2000)- amidomethylthio- 8]- β-phenyl- 1, N²-ethenoguanosine- 3', 5'-cyclic monophosphate (PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET)

Description: PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET is a polymer-linked dimeric (PLD) cGMP analogue in which two cGMP units are linked by a polydisperse 2000 Dalton spacer on basis of polyethylene glycol (PEG) via thioethers at the guanine C8 positions. In addition, β-phenyl-1,N²-etheno (PET) groups have been attached to both guanine nucleobases.

Properties: Membrane-permeant cGMP dimer with enhanced PKG activation properties by addressing two binding sites simultaneously with a single molecule. Activation constants of PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET *in vitro* on purified cGMP-dependent protein kinase (PKG) isozymes were measured to be in the range of < 1 nM (PKG Iα PKG Iβ), and ~80 nM (PKG II), respectively (BIOLOG in-house data). PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET decreased cell viability in the PKG2 expressing colon cancer cell line Caco-2, but not in the PKG2 expressing colon cancer cell lines HCT 116 and HT-29.

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 / 275 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: PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET is soluble in water (≥ 6.9 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: PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET 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 PET-cGMP-8-TMAmd-(PEG pd 2000)-AmdMT-8-cGMP-PET:

1. 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"