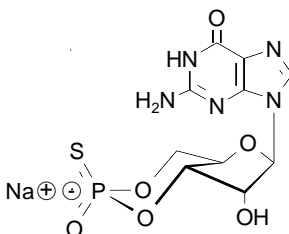


## Technical Information about Sp-cGMPS

Metabolically resistant activator of cGMP-dependent protein kinase

Update: October 04, 2007 TR



**Abbreviation:**

**Sp-cGMPS**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C <sub>10</sub> H <sub>11</sub> N <sub>5</sub> O <sub>6</sub> PS·Na	[86562-10-9]	383.3	λ <sub>max</sub> 252 nm / ε 13500 / pH7	G 017

**Name:** Guanosine- 3', 5'- monophosphorothioate, Sp- isomer (Sp-cGMPS)

**Description:** Sp-cGMPS is an analogue of the parent second messenger cyclic GMP in which one of the two exocyclic oxygen atoms in the cyclic phosphate moiety is modified by sulfur. Equatorial thio substitution leads to the R-isomer, while axial modification yields the corresponding S-compound. The suffix "p" indicates that R/S nomenclature refers to phosphorus.

**Legal information:** Protected under patent DE 3802865.4 licensed to BIOLOG LSI

**Properties:**

- Activator of protein kinase G/ cGMP antagonist <sup>9</sup>
- High metabolic stability against mammalian cyclic nucleotide- responsive phosphodiesterases <sup>4, 6, 7</sup>
- Low lipophilicity and hence only poor membrane permeability <sup>3</sup>
- Valuable tool for mapping the cyclic phosphate moiety of new cGMP receptor proteins <sup>2, 4, 5, 7, 10, 11, 15</sup>
- Suitable for injection and patch clamp techniques

Caution: Sp-cGMPS has only poor selectivity for the cGMP pathway and does also activate cAMP-dependent protein kinase. Due to its low lipophilicity it has normally not sufficient membrane permeability for most biological systems. 8-pCPT-cGMP (Cat. No. C 009) or 8-Br-PET-cGMP (Cat. No. P 003) are much more recommendable activators of the cGMP pathway in intact cells.

**Specification:** Crystallized or lyophilized sodium salt. Please keep in mind that equal amounts of the compound may look different in volume depending on humidity. Micromolar quantities are determined by UV at 252 nm. Other salt forms of Sp-cGMPS are available upon request.

**Purity:** Typical analysis is better than 98% (HPLC / UV/ 252 nm). The product is not sterile.

**Solubility:** Sp-cGMPS has sufficient solubility in water or buffer. When opening the tube 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.

**Stability and Storage:** Sp-cGMPS 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 cyclic GMP has multiple tasks in every organism, it is possible that cGMP analogs could 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 compounds 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 non-human *in vivo* laboratory applications. Any other use requires approval of health authorities.

**Not for drug, household or related uses!**

P.t.o.

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For a detailed list please inquire or visit our website (<http://www.biolog.de>)

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