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Technical Information about Sp-8-CPT-cAMPS

Potent membrane-permeant, PDE-resistant activator of cAMP-dependent protein kinase type I and II

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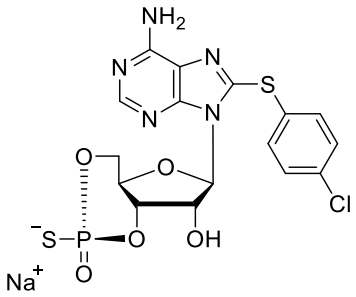

Abbreviation: **Sp-8-CPT-cAMPS**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{16}H_{14}ClN_5O_5PS_2 \cdot Na$	[129693-13-6]	509.8	λ_{max} 282 nm / ε 16000 / pH 7	C 012

Name: 8- (4- Chlorophenylthio)adenosine- 3', 5'- cyclic monophosphorothioate, Sp- isomer (Sp-8-CPT-cAMPS)

Description: Sp-8-CPT-cAMPS is an analogue of the parent second messenger cyclic AMP where the hydrogen in position 8 of the nucleobase is replaced by the lipophilic chlorophenylthio moiety. In addition, the axial one of the two exocyclic oxygen atoms in the cyclic phosphate is modified by sulfur (S isomer). The suffix "p" indicates that R/S nomenclature refers to phosphorus. The compound can be considered as a combination of the well known derivative 8-CPT-cAMP with Sp-cAMPS.

Properties:

- **Site-selective activator of protein kinase A (PKA) prefering site B of the type II isozyme (Dostmann et al. 1990, Døskeland et al. 1993),**
- **metabolic stability towards mammalian cyclic nucleotide- responsive phosphodiesterases,**
- **high lipophilicity and good membrane permeability while still soluble in aqueous solvents (Genieser 1995),**
- **suitable as a partner for synergistic activation of protein kinase A type II (Døskeland et al. 1993).**

Sp-8-CPT-cAMPS selects site B of PKA II over site A by more than two magnitudes of order and therefore can be used in combination with an A II-selective analogue for selective, synergistic activation of the type II isozyme of protein kinase A. Its metabolic stability avoids potential side effects through active metabolites.

Specification: Crystallized or lyophilized sodium salt. Other salt forms of Sp-8-CPT-cAMPS are available upon request. Please keep in mind that equal amounts of the compound may look different in volume depending on 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 282 nm. The inhibitory Rp-isomer (Rp-8-CPT-cAMPS) is offered by BIOLOG as well (Cat. No. C 011).

Purity: Typical analysis is better than 99% (HPLC / UV / 282 nm). The product is not sterile and has not been tested for endotoxins.

Stability and Storage: Sp-8-CPT-cAMPS has sufficient stability at room temperature and does not need special care during handling or shipment. Nevertheless, the compound and its solutions should be protected from bright light, stored in the freezer and should be lyophilized and frozen for longer storage periods, since 8-CPT-cAMP can be formed slowly by oxidation processes.

Toxicity and Safety: Since cyclic AMP has multiple tasks in every organism, it is very likely that lipophilic cAMP 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 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 nonhuman *in vivo* laboratory applications. Any other use requires approval of health authorities.
Not for drug, household or related uses!

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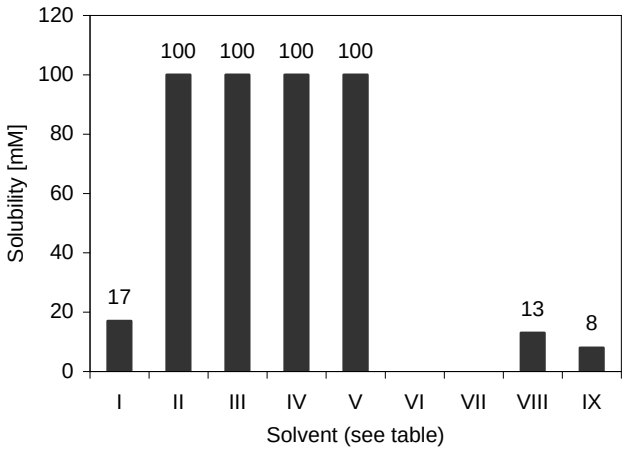
Solubility: Detailed information on the solubility of Sp-8-CPT-cAMPS in water and various buffers are listed in the solubility chart below. Concentrations have been determined at ambient temperature and can be considered as minimum concentrations usually obtainable, however, slight batch-to-batch variations cannot be ruled out. When opening the tube please 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.

No.	Solvent	Solubility [mM]
I	H_2O	17
II	DMSO	100
III	DMF	100
IV	Ethanol 96%	100
V	Methanol	100
VI	PBS, pH 7.4	0
VII	100 mM Na_2HPO_4, pH 7.0	0
VIII	25 mM Hepes/NaOH, pH 7.2	13
IX	25 mMTris/HCl, pH 7.4	8



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For a detailed list please inquire.

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