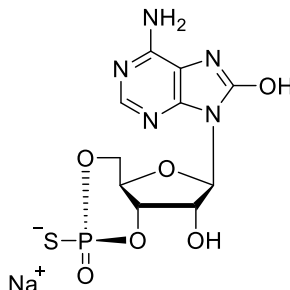


Technical Information about Sp-8-OH-cAMPS

Polar, membrane-impermeant and PDE resistant activator of cAMP-dependent protein kinases

Update: June 26, 2017 HJ



Abbreviation: Sp-8-OH-cAMPS

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₀ H ₁₁ N ₅ O ₆ PS·Na	[749843-87-6]	383.3	λ _{max} 268 nm / ε 11000 / pH 7	H 005

Name: 8-Hydroxyadenosine- 3', 5'- monophosphorothioate, Sp-isomer (Sp-8-OH-cAMPS)

Description: Sp-8-OH-cAMPS is an analogue of the parent second messenger cyclic AMP in which the hydrogen in position 8 of the adenine nucleobase is replaced by the polar hydroxy moiety. In addition, the axial one of two exocyclic oxygen atoms in the cyclic phosphate moiety is replaced by sulfur. The suffix "p" indicates that R/S nomenclature refers to phosphorus.

Properties:

- polar analog of the PDE-resistant protein kinase A activator Sp-cAMPS
- High polarity and hence low membrane permeability
- Increased metabolic stability towards cyclic nucleotide- responsive phosphodiesterases compared to 8-OH-cAMP

Sp-8-OH-cAMPS is a membrane-impermeant activator of protein kinase A which can be used for the stimulation of extracellular cAMP receptors and for prevention of membrane permeation after intracellular pipette application. Its high metabolic stability avoids potential side effects through active metabolites.

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 268 nm. Other salt forms of Sp-8-OH-cAMPS are available upon request.

Purity: Typical analysis is better than 98% (HPLC / UV/ 268 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: Sp-8-OH-cAMPS has excellent 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-8-OH-cAMPS 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 AMP has multiple tasks in every organism it is possible that even polar cAMP analogs 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!

Selected Reference for Sp-8-OH-cAMPS:

Matthiesen, K.; Nielsen, J., *Biochemical J.*, **423**, 401 – 409 (2009): " Binding of cyclic nucleotides to phosphodiesterase 10A and 11A GAF domains does not stimulate catalytic activity"

Otmakhov, N.; Lisman, J.E., *J. Neurophysiol.*, **87**, 3018 - 3032 (2002): "Postsynaptic application of a cAMP analogue reverses long-term potentiation in hippocampal CA 1 pyramidal neurons"