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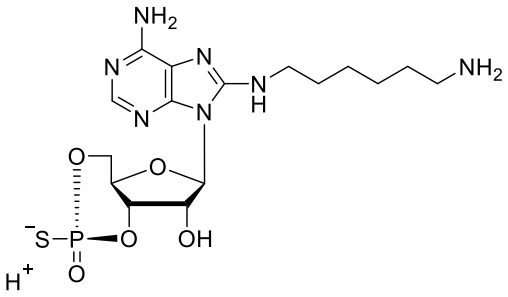
Technical Information about
8- (6- Aminohexylamino)- cAMPS, Sp- isomer

Update: August 23, 2018 HJ



Abbreviation: **Sp-8-AHA-cAMPS**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_{16}H_{26}N_7O_5PS$	[214272-03-4]	459.5	λ_{max} 273 nm / ε 17000 / pH 7	A 071

Name: 8- (6- Aminohexylamino)adenosine- 3', 5'- cyclic monophosphorothioate, Sp- isomer

Description: Sp-8-AHA-cAMPS is an analogue of the natural signal molecule cyclic AMP in which the hydrogen in position 8 of the nucleobase is replaced by an aminohexylamino group. In addition, the axial one of the two exocyclic oxygen atoms in the cyclic phosphate moiety is modified by sulfur. The suffix "p" indicates that R/S nomenclature refers to phosphorus.

Properties: Sp-8-AHA-cAMPS is a PDE-resistant form of 8-AHA-cAMP (Cat. No. A 011) which is a site selective activator of cAMP-dependent protein kinases (PKA) with preference for site B of RI of PKA. The free terminal primary amino group, separated from the nucleotide by a hexyl spacer, is suitable for coupling to gels for affinity chromatography and for binding of various labels, e.g. fluorescent dyes. Sp-8-AHA-cAMPS is also available as ligand immobilized to agarose (Sp-8-AHA-cAMPS-Agarose, Cat. No. A 013).

Specification: Crystallized or lyophilized solid. Equal concentrations of Sp-8-AHA-cAMPS can appear very different in volume due to sensitivity of the lyophilized form to humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube. Micro molar quantities are determined by UV at λ_{max}.

Purity: Typical analysis is better than 98% (HPLC / UV / 273 nm). The product is not sterile and has not been tested for endotoxins.

Stability and Storage: Sp-8-AHA-cAMPS is chemically rather stable. 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 very likely that its 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 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!

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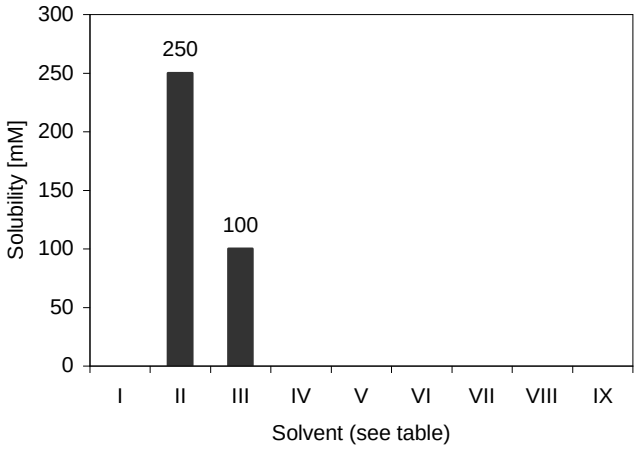
Solubility: Detailed information on the solubility of Sp-8-AHA-cAMPS in water and various buffers are listed in the solubility chart below. Concentrations have been determined at ambient temperature and can be considered as minimum concentrations usually obtainable, however, slight batch-to-batch variations cannot be ruled out. Due to its ability to form internal and polymeric salts, Sp-8-AHA-cAMPS is difficult to dissolve in water or buffer. The compound is better soluble in DMSO, DMF, or dilute alkali of pH 9.5 and can, after dissolution, titrated back to neutral. In addition, gentle heating usually helps to get complete dissolution. 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	0
II	DMSO	250
III	DMF	100
IV	Ethanol 96%	0
V	Methanol	0
VI	PBS, pH 7.4	0
VII	100 mM Na_2HPO_4, pH 7.0	0
VIII	25 mM Hepes/NaOH, pH 7.2	0
IX	25 mMTris/HCl, pH 7.4	0



Selected References for Sp-8-AHA-cAMPS:

Hanke, S.E.; Bertinetti, D.; Badel, A.; Schweinsberg, S.; Genieser, H.-G.; Herberg, F.W., *New Biotechnology* (2010): "Cyclic Nucleotides as Affinity Tools: Phosphorothioate cAMP Analogues Adress Specific PKA Subproteomes"

Bertinetti, D.; Schweinsberg, S.; Hanke, S.E.; Schwede, F.; Bertinetti, O.; Drewianka, S.; Genieser, H.-G.; Herberg, F.W., *BMC Chem Biol*, **9** (2009): "Chemical tools selectively target components of the PKA system"

Moll, D.; Prinz, A.; Gesellchen, F.; Drewianka, S.; Zimmermann, B.; Herberg, F.W., *J. Neural. Transm*., **113**, 1015 - 1032 (2006): “Biomolecular Interaction Analysis in Functional Proteomics”

Selected Reference for 8-AHA-cAMP (Cat. No. A 011):

Skalhegg, B.S.; Landmark, B.F.; Døskeland, S.O.; Hansson, V.; Lea, T.; Jahnsen, T., *J. Biol. Chem*., **267**, 15707 - 15714 (1992): "Cyclic AMP-dependent Protein Kinase Type I Mediates the Inhibitory Effects of 3',5'-Cyclic Adenosine Monophosphate on Cell Replication in Human T Lymphocytes"

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