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Technical Information about Sp-8-Br-cAMPS

Potent membrane-permeant, metabolically stable activator of cAMP-dependent protein kinases

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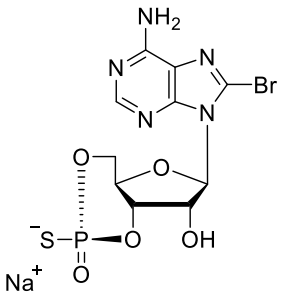

Abbreviation: **Sp-8-Br-cAMPS**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat.No.
$C_{10}H_{10}BrN_5O_5$ PS·Na	[127634-20-2]	446.2	λ_{max} 264 nm / ε 17000 / pH 7	B 002

Name: 8- Bromoadenosine- 3', 5'- cyclic monophosphorothioate, Sp- isomer

Description: Sp-8-Br-cAMPS is an analogue of the parent compound cyclic AMP in which the hydrogen in position 8 of the nucleobase is replaced by bromine and 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-Br-cAMPS combines the structures of the two well known protein kinase activators Sp-cAMPS and 8-Br-cAMP yielding a novel membrane permeant cyclic AMP mimetic [1 - 5, 6, 7] which is not degraded by mammalian cyclic nucleotide phosphodiesterases.
Sp-8-Br-cAMPS is about 2 times more lipophilic compared to 8-Br-cAMP and Sp-cAMPS and 4 times more compared to cAMP, respectively [8]. If you have good or moderate results with 8-Br-cAMP or Sp-cAMPS, you can be sure that Sp-8-Br-cAMPS will be membrane-permeant in your system as well.

Application: Applicable concentrations of Sp-8-Br-cAMPS strongly depend on the type of biosystem, its membrane properties and kinase content.
Since Sp-8-Br-cAMPS is hydrolytically stable in mammalian and many other systems, there is no danger of degradation during incubation periods. Sp-8-Br-cAMPS is a good choice, if unwanted side effects of metabolites of hydrolizable cyclic AMP analogues, e.g. 8-Br-cAMP or 8-CPT-cAMP, must be excluded and solely the effect of an intact protein kinase A agonist is desired [9].

Specification: Lyophilized or crystallized sodium salt. The free acid or other salt forms are available upon request. Equal concentrations of Sp-8-Br-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 compound is located in the conical bottom of the tube. Micromolar quantities are determined by UV at λ_{max}.

Purity: Typical analysis is better than 98% (HPLC / UV / 264 nm). The product is not sterile and has not been tested for endotoxins.

Stability and Storage: Sp-8-Br-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 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 these 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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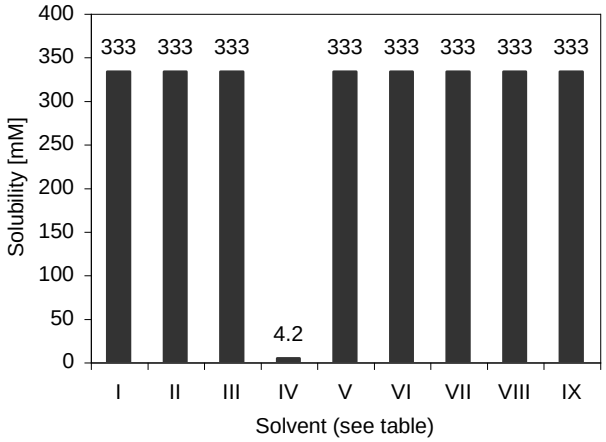
Solubility: Detailed information on the solubility of Sp-8-Br-cAMPS in water and various buffers are listed in the solubility chart below. Concentrations have been tested at ambient temperature and can be considered as minimum concentrations usually obtainable, however, slight batch-to-batch variations 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	333
II	DMSO	333
III	DMF	333
IV	Ethanol 96%	4.2
V	Methanol	333
VI	PBS, pH 7.4	333
VII	100 mM Na_2HPO_4, pH 7.0	333
VIII	25 mM Hepes/NaOH, pH 7.2	333
IX	25 mMTris/HCl, pH 7.4	333



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For a comprehensive and updated list please visit our website (http://www.biolog.de).

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