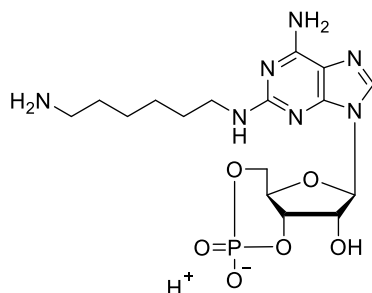


Technical Information about 2-AHA-cAMP

Precursor for fluorescence labelling and ligand for affinity chromatography of cyclic nucleotide-dependent binding proteins

Update: August 21, 2018 HU



Abbreviation: **2-AHA-cAMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₆ H ₂₆ N ₇ O ₆ P	[214276-80-9]	443.4	λ _{max} 258 nm / ε 12000 / pH 7	A 053

Name: 2- (6- Aminohexylamino)adenosine- 3', 5'- cyclic monophosphate

Description: 2-AHA-cAMP is an analogue of the natural signal molecule cyclic AMP where the hydrogen in position 2 of the nucleobase is replaced by an aminohexylamino group.

Properties: 2-AHA-cAMP is an activator of cAMP-dependent protein kinase. 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. 2-AHA-cAMP is available as ligand immobilized to agarose as well (2-AHA-cAMP-Agarose, Cat. No. A 054).

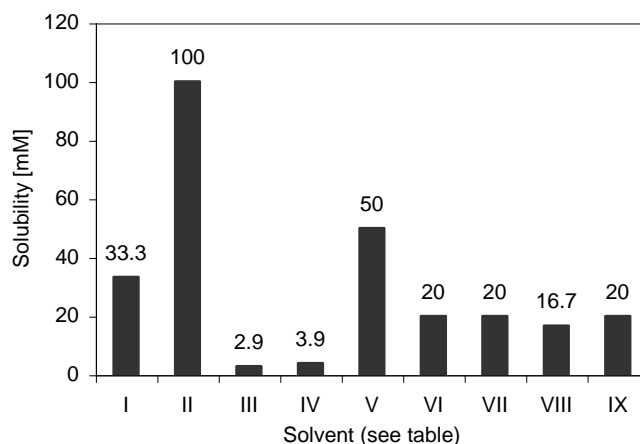
Specification: Crystallized or lyophilized solid. Equal concentrations of 2-AHA-cAMP can appear very different in volume due to sensitivity of the lyophilized form to humidity. The compound can even contract to small volume droplets. Normally the product is located in the conical bottom of the tube. Micromolar quantities are determined by UV at λ_{max}.

Purity: Typical analysis is better than 98% (HPLC / UV / 258 nm). The product is not sterile and has not been tested for endotoxins.

Stability and Storage: 2-AHA-cAMP is chemically stable under conditions of biological systems and media. Nevertheless, we recommend that the compound should be stored in the freezer, for longer storage periods preferably in freeze-dried form

Solubility: Detailed information on the solubility of 2-AHA-cAMP 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. Due to its ability to form internal and polymeric salts, 2-AHA-cAMP is often difficult to dissolve in water or buffer. Gentle heating usually helps to get complete dissolution. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing. When opening the tube please make sure that no substance is lost within the cap.

No.	Solvent	Solubility [mM]
I	H ₂ O	33.3
II	DMSO	100
III	DMF	2.9
IV	Ethanol 96%	3.9
V	Methanol	50
VI	PBS, pH 7.4	20
VII	100 mM Na ₂ HPO ₄ , pH 7.0	20
VIII	25 mM Hepes/NaOH, pH 7.2	16.7
IX	25 mM Tris/HCl, pH 7.4	20



Toxicity and Safety: Since cyclic AMP has multiple tasks in every organism, it is very likely that 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 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!

References for 2-AHA-cAMP:

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"

Iwitzki, F., PhD Thesis, University of Bremen, Bremen, Germany, 1993.

Dills, W.L.; Beavo, J.A.; Bechtel, P.J.; Myers, K.R.; Sakai, L.J., Krebs, E.G., *Biochemistry* **15**, 3724 - 3770 (1976): "Binding of Adenosine 3', 5'- Monophosphate Dependent Protein Kinase Regulatory Subunit to Immobilized Cyclic Nucleotide Derivatives"