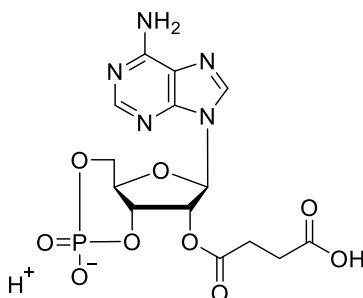


Technical Information about 2'-O-Monosuccinyl-cAMP

Update: August 23, 2018 HU



Abbreviation:

2'-O-MS-cAMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₄ H ₁₆ N ₅ O ₉ P	[36940-87-1]	429.3	λ _{max} 259 nm / ε 15000 / pH 7	M 011

Name: 2'- O- Monosuccinyladenosine- 3', 5'- cyclic monophosphate (2'-O-MS-cAMP)

Description: 2'-O-MS-cAMP is an analogue of the natural signal molecule cyclic AMP where the ribose 2' hydroxyl group has been modified by an ester with succinic acid.

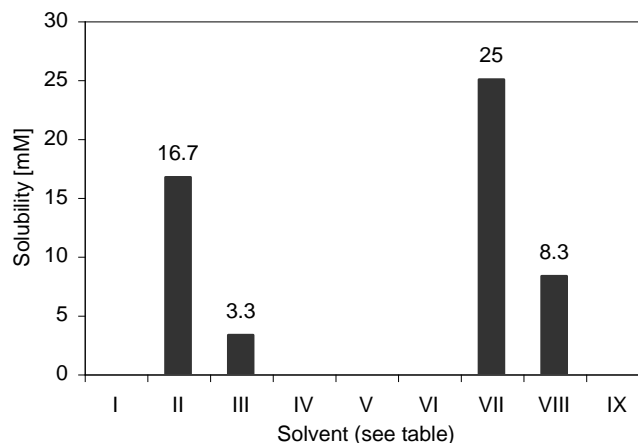
Properties: Spacer-modified cyclic AMP with terminal carboxy group, suitable as a ligand in affinity chromatography, for coupling of e.g. tyrosyl methylester, fluorophores or proteins for ELISA. BIOLOG also offers 2'-AHC-cAMP, a related structure with a longer spacer and increased hydrolytic stability (Cat. No. A 046). For phosphodiesterase-stable analogues please inquire.

Specification: Crystallized or lyophilized free acid form. Salts of 2'-O-MS-cAMP are available upon request. Please keep in mind that equal concentrations of 2'-O-MS-cAMP may look different in volume due to sensitivity 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.

Solubility: Detailed information on the solubility of 2'-O-MS-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. The free acid form of 2'-O-MS-cAMP is soluble e.g. in organic solvents such as DMSO and DMF, or in aqueous buffer at pH 6-7, leading to the respective salt form of 2'-O-MS-cAMP. 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	0
II	DMSO	16.7
III	DMF	3.3
IV	Ethanol 96%	0
V	Methanol	0
VI	PBS, pH 7.4	0
VII	100 mM Na ₂ HPO ₄ , pH 7.0	25
VIII	25 mM Hepes/NaOH, pH 7.2	8.3
IX	25 mM Tris/HCl, pH 7.4	0



Stability and Storage: 2'-O-MS-cAMP 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. Please note that the ester bond of this structure could hydrolyse at pH values above 7.

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

Selected References for 2'-O-MS-cAMP:

Horton, J.K.; Baxendale, P.M., *Methods in Molecular Biology*, **41**, 91 - 105 (1995): "Mass Measurements of Cyclic AMP Formation by Radioimmunoassay, Enzyme Immunoassay, and Scintillation Proximity Assay"

Horton, J.K.; Martin, S.C.; Kalinka, S.; Cushing, A.; Kitcher, J.P., O'Sullivan, M.J.; Baxendale, P.M., *J. Immun. Methods*, **155**, 31 - 40 (1992): "Enzyme Immunoassays for the Estimation of Adenosine 3',5' Cyclic Monophosphate in Biological Fluids"

Luttrell, B.M.; Henniker, A.J., *J. Biol. Chem.*, **266**, 21626 - 21630 (1991): "Reaction Coupling of Chelation and Antigen Binding in the Calcium Ion-dependent Antibody Binding of Cyclic AMP"

Cailla, H.L.; Roux, D.; Kuntziger, H.; Delaage, M.A., *Hormones and Cell Regulation*, **4**, 1 - 25 (1980): "Antibodies Against Cyclic AMP, Cyclic GMP. Their Use in High Performance Radioimmunoassay"

Steiner, A.L.; Parker, C.W.; Kipnis, D.M., *J. Biol. Chem.*, **247**, 1106 - 1113 (1972): "Radioimmunoassay for Cyclic Nucleotides. I. Preparation of Antibodies and Iodinated Cyclic Nucleotides"

Steiner, A.L.; Kipnis, D.M.; Utiger, R.; Parker, C.W., *Proc. Natl. Acad. Sci.*, **64**, 367 - 373 (1964): "Radioimmunoassay for the Measurement of Adenosine 3',5'-Cyclic Phosphate"