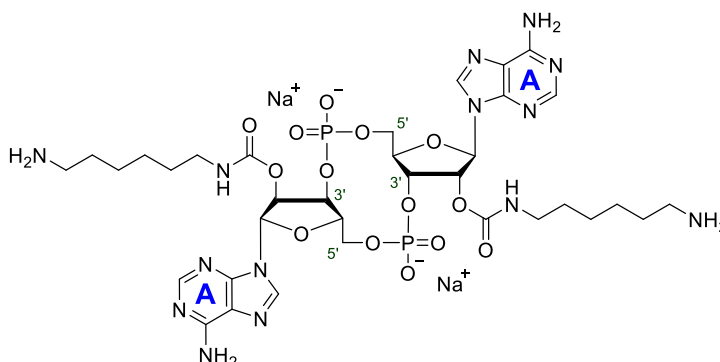


Technical Information about 2',2''-Di-AHC-c-diAMP

Update: April 16, 2019 HJ



Abbreviation: 2',2''-Di-AHC-c-diAMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₃₄ H ₅₂ N ₁₄ O ₁₄ P ₂ (free acid)	[pending]	942.8 (free acid)	λ _{max} 259 nm / ε 27000 / pH 7	D 121

Name: 2'-, 2''- O- (Di- [6- aminohexylcarbamoyl])- cyclic diadenosine monophosphate

Description: 2',2''-Di-AHC-c-diAMP is an analogue of the bacterial second messenger c-diAMP (BIOLOG Cat. No. C 088) in which hexyl spacers with terminal amino groups have been attached to both ribose 2'-hydroxy groups.

Properties: Analogue of c-diAMP which is suitable as a ligand in affinity chromatography or for coupling of various labelling structures including fluorophores.

Specification: Crystallized or lyophilized sodium salt. Please keep in mind that equal concentrations of the compound may look 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 95% (HPLC / UV / 259 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 2',2''-Di-AHC-c-diAMP is difficult to dissolve in water. However, the compound is soluble to approx. 1 mM in 20:80% (v/v) MeOH/H₂O. 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.

Stability and Storage: 2',2''-Di-AHC-c-diAMP 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: 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',2''-Di-AHC-c-diAMP:

2',2''-Di-AHC-c-diAMP is a new structure which has been synthesized by BIOLOG LSI for the first time. There are no corresponding references available at the moment.

Selected References for the Parent Compound c-diAMP:

Corrigan, R.M.; Campeotto, I.; Jeganathan, T.; Roelofs, K.G.; Lee, V.T.; Gründling, A., *Proc. Natl. Acad. Sci. USA*, **110**, 9084 - 9089 (2013): "Systematic Identification of Conserved Bacterial c-di-AMP Receptor Proteins"

Abdul-Sater, A.A.; Grajkowski, A.; Erdjument-Bromage, H.; Plumlee, C.; Levi, A.; Schreiber, M.T.; Lee, C.; Shuman, H.; Beaucage, S.L.; Schindler, C., *Microbes Infect.*, **14**, 188 - 197 (2012): "The Overlapping Host Responses to Bacterial Cyclic Dinucleotides"

Corrigan, R.M.; Abbott, J.C.; Burhenne, H.; Kaefer, V.; Gründling, A., *PLoS Pathog.*, **7**, e1002217 (2011): "c-di-AMP is a New Second Messenger in *Staphylococcus aureus* with a Role in Controlling Cell Size and Envelope Stress"

Smith, K.D.; Strobel, S.A., *Biochem. Soc. Trans.*, **39**, 647 - 651 (2011): "Interactions of the c-di-GMP Riboswitch with its Second Messenger Ligand"

Gomelsky, M., *Mol. Microbiol.*, **79**, 562 - 565 (2011): "cAMP, c-di-GMP, c-di-AMP and now cGMP: Bacteria use Them All!"

Oppenheimer-Shaanan, Y.; Wexselblatt, E.; Katzhendler, J.; Yavin, E.; Ben-Yehuda, S., *EMBO Rep.*, **12**, 594 - 601 (2011): "c-di-AMP Reports DNA Integrity During Sporulation in *Bacillus subtilis*"

Tchigvintsev, A.; Xu, X.; Singer, A.; Chang, C.; Brown, G.; Proudfoot, M.; Cui, H.; Flick, R.; Anderson, W.F.; Joachimiak, A.; Galperin, M.Y.; Savchenko, A.; Yakunin, A.F., *J. Mol. Biol.*, **402**, 524 - 538 (2010): "Structural Insight into the Mechanism of c-di-GMP Hydrolysis by EAL Domain Phosphodiesterases"

Woodward, J.J.; Iavarone, A.T.; Portnoy, D.A., *Science*, **328**, 1703 - 1705 (2010): "c-di-AMP Secreted by Intracellular *Listeria monocytogenes* Activates a Host Type I Interferon Response"

Rao, F.; See, R.Y.; Zhang, D.; Toh, D.C.; Ji, Q.; Liang, Z.-X., *J. Biol. Chem.*, **285**, 473 - 482 (2010): "YybT is a Signaling Protein that Contains a Cyclic Dinucleotide Phosphodiesterase Domain and a GGDEF Domain with ATPase Activity"

Römling, U., *Sci. Signal.*, **1(33)**, pe39 (2008): "Great Times for Small Molecules: c-di-AMP, a Second Messenger Candidate in Bacteria and Archaea"

Witte, G.; Hartung, S.; Büttner, K.; Hopfner, K.-P., *Mol. Cell*, **30**, 167 - 178 (2008): "Structural Biochemistry of a Bacterial Checkpoint Protein Reveals Diadenylate Cyclase Activity Regulated by DNA Recombination Intermediates"

Simm, R.; Lusch, A.; Kader, A.; Andersson, M.; Römling, U., *J. Bacteriol.*, **189**, 3613 - 3623 (2007): "Role of EAL-containing Proteins in Multicellular Behavior of *Salmonella enterica* Serovar Typhimurium"