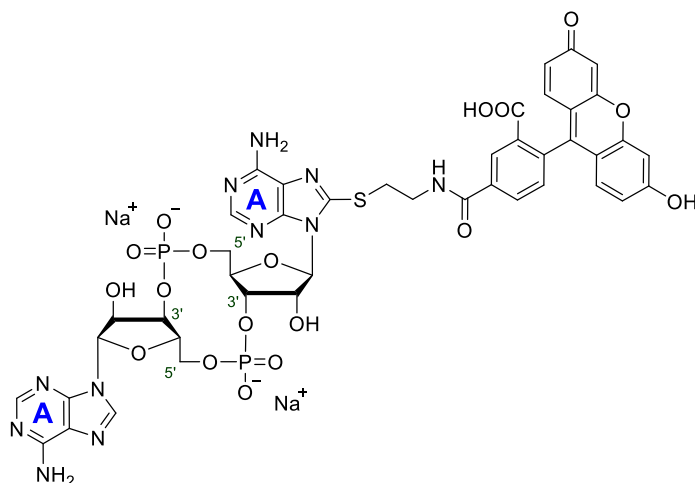


Technical Information about 8-Fluo-AET-c-diAMP

Update: May 24, 2019 HGG



Abbreviation:

8-Fluo-AET-c-diAMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₄₃ H ₃₉ N ₁₁ O ₁₈ P ₂ S (free acid)	[pending]	1091.9 (free acid)	λ_{\max} ~494 nm / ϵ ~79000 / pH 9	F 014

Name: 8- (2- [Fluoresceinyl]aminoethylthio)- cyclic diadenosine monophosphate (8-Fluo-AET-c-diAMP)

Description: In 8-Fluo-AET-c-diAMP two 5'-AMP units are connected to form a cyclic structure. In addition, 5-carboxyfluorescein has been attached to the 8-position of one of the two adenine nucleobases via an aminoethylthio spacer.

Properties: 8-Fluo-AET-c-diAMP is a fluorescent analogue of the bacterial second messenger c-diAMP (BIOLOG Cat. No. C 088) with λ_{exc} 494 nm and λ_{em} 517 nm.

Specification: Lyophilized or crystallized sodium salt. Other salt forms are available upon request. Equal concentrations of 8-Fluo-AET-c-diAMP 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/VIS at λ_{max} .

Purity: Typical analysis is better than 95% (HPLC / VIS 494 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 8-Fluo-AET-c-diAMP is soluble to at least 1 mM in water, limits have not been determined. 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: 8-Fluo-AET-c-diAMP is chemically relatively stable. Nevertheless, the compound should be protected from light and stored in the freezer (-20° Celsius necessary, -80° recommended), 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 8-Fluo-AET-c-diAMP: 8-Fluo-AET-c-diAMP is a new structure which has been synthesized by BIOLOG Life Science Institute for the first time. There are no corresponding references available at present.

Selected References for the Bacterial Second Messenger c-diAMP:

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"