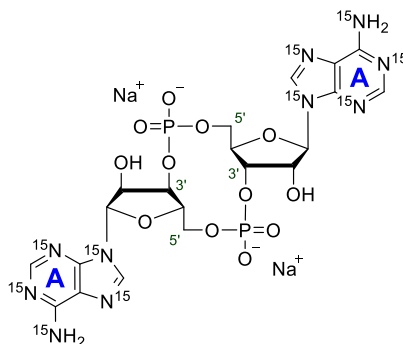


Technical Information about [¹⁵N₁₀]-c-diAMP

Stable isotope version of the bacterial second messenger c-diAMP

Update: February 12, 2024 ss



Abbreviation: [¹⁵N₁₀]-c-diAMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₂₀ H ₂₄ ¹⁵ N ₁₀ O ₁₂ P ₂ (free acid)	[pending]	668.4 (free acid)	λ _{max} 259 nm / ε 27000 / pH 7	C 409

Name: Cyclic diadenosine- [¹⁵N₁₀]- monophosphate, sodium salt

Description: In [¹⁵N₁₀]-c-diAMP two 5'-AMP units are connected to form a cyclic structure. In contrast to the natural c-diAMP structure, all nitrogen atoms are exchanged against the corresponding stable isotope ¹⁵N.

Properties: [¹⁵N₁₀]-c-diAMP is the stable isotope version of the widespread bacterial second messenger c-diAMP (Biolog Cat. No. C 088) that was found to be involved in a wide variety of physiological processes in bacteria such as biofilm formation, maintenance of osmotic pressure and acid stress resistance. [¹⁵N₁₀]-c-diAMP is suitable as internal standard in LC-MS applications for c-diAMP.

Specification: Crystallized or lyophilized sodium salt. Please keep in mind that equal amounts of the compound may look different in volume. 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), with isotope purity ≥ 98%. The product is not sterile and has not been tested for endotoxins.

Solubility: [¹⁵N₁₀]-c-diAMP is soluble in water and aqueous buffers (≥ 50 mM, 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: [¹⁵N₁₀]-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!

Selected Reference for the Related Compound [¹³C₂₀,¹⁵N₁₀]-c-diAMP:

Moradali M.F.; Ghods, S.; Bähre, H.; Lamont, R.J.; Scott, D.A.; Seifert, R., *NPJ Biofilms Microbiomes*, **8**:53 (2022): "Atypical Cyclic di-AMP Signaling is Essential for *Porphyromonas gingivalis* Growth and Regulation of Cell Envelope Homeostasis and Virulence"