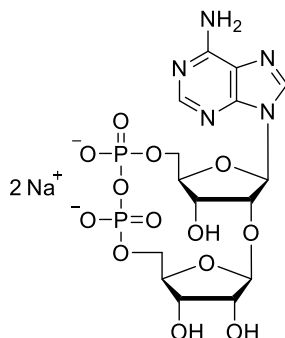


Technical Information about 2'-Cyclic ADP Ribose

Update: July 19, 2023 ss



Abbreviation:

2'-cADPR

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₅ H ₂₁ N ₅ O ₁₃ P ₂ (free acid)	[pending]	541.3 (free acid)	λ _{max} 259 nm / ε 15000 / pH 7	C 406

Name: (1'' - 2'')- Cyclic adenosine diphosphate ribose (2'-cADPR / v-cADPR / 1''-2''-gcADPR), sodium salt

Description: 2'-cADPR is an analogue of ADP ribose in which position 2' of the southern ribose is connected to position 1'' of the second ribose unit yielding a so-called "glycocyclic" macrocyclic ring system consisting of pyrophosphate and riboses.

Properties: 2'-cADPR is a regioisomer of the canonical second messenger cADPR (Cat. No. C 005) and of 3'-cADPR (Catalog. No. C 404). Biosynthesis of 2'-cADPR was identified in Toll/interleukin-1 receptor (TIR)-domain containing proteins in plants and bacteria, and it is hypothesized to have a role in immune signaling (Wan et al. 2019, Bayless et al. 2023, Hulin et al. 2023).

Specification: Crystallized or lyophilized sodium salt. The free acid or other salt forms are available upon request. 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 98% (HPLC / UV / 259 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 2'-cADPR has excellent solubility in water and aqueous buffers (≥ 12 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: 2'-cADPR 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: Since 2'-cADPR seems to have tasks in several organisms, it is not unlikely that it 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'-cADPR:

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