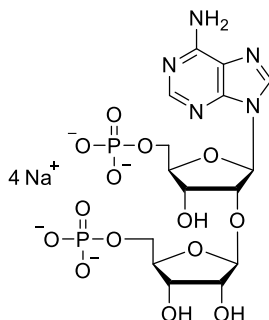


Technical Information about 2'-pRib-AMP

Update: March 13, 2024 ss



Abbreviation:

2'-pRib-AMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₅ H ₂₃ N ₅ O ₁₄ P ₂ (free acid)	[1672716-76-5]	559.3 (free acid)	λ _{max} 260 nm / ε 15000 / pH 7	P 128

Name: 2'- (5''- Phosphoribosyl)- adenosine- 5'- O- monophosphate (2'-pRib-AMP / 2'-pRib-5'-AMP / iso-ADPR), sodium salt

Description: 2'-pRib-AMP is an isomeric analogue of the natural signal molecule ADPR, in which a 5''-phosphoribose is connected to the 2'-O-position of 5'-AMP.

Properties: 2'-pRib-AMP is the monomeric metabolite of poly(ADP-ribose) (PAR) and can be used to detect and analyse PAR-specific binding properties of poly(ADP-ribose) polymerases (Wang et al. 2018). Recent studies have shown that plant nucleotide-binding leucine-rich repeat (NLR) receptors with an N-terminal Toll/interleukin-1 receptor (TIR) domain recognise pathogen effectors. The TIR-enabled nicotinamideadenine dinucleotide hydrolase (NADase) activity is used to mediate the immune response. It has been shown that TIR-containing proteins can biocatalyse the production of 2'-pRib-AMP from NAD⁺ in plants, and it has been postulated that 2'-pRib-AMP may have a second messenger function in TIR signalling of plant immunity (Jia et al. 2022; Huang et al. 2022)

Specification: Crystallized or lyophilized sodium salt. For other salt forms or analogues of 2'-pRib-AMP please inquire. Please keep in mind that equal concentrations of the compound may look different in volume due to high 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 / 260 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: : 2'-pRib-AMP is soluble in water (≥ 84 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'-pRib-AMP is chemically rather stable 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 References for 2'-pRib-AMP:

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