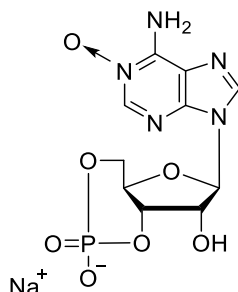


Technical Information about Adenosine- 1- N- oxide- 3', 5'- cyclic monophosphate (1-NO-cAMP)

Polar activator of cAMP- dependent protein kinases

Update: July 02, 2018 HU



Abbreviation: 1-NO-cAMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₀ H ₁₁ N ₅ O ₇ P·Na	[75912-25-3]	367.2	λ _{max} 231/260 nm / ε 10100/9500 / pH 7	A 023

Name: Adenosine- 1- N- oxide- 3', 5'- cyclic monophosphate / Adenosine- 3', 5'- cyclic monophosphate, N¹- oxide

Description: 1-NO-cAMP is an analogue of the natural signal molecule cyclic AMP where the N¹- nitrogen of the heterocyclic nucleobase adenine is modified by oxygen to form an N- oxide.

Properties:

- Activator of cAMP- dependent protein kinases,
- Analogue with high polarity which should be unable to pass cellular membranes (please compare also 8-hydroxy-cAMP, Cat. No. H 003),
- Due to its modified N¹- position this analogue is used to investigate the binding properties of this part of the nucleobase towards cAMP receptor proteins (receptor mapping studies).

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 depending on humidity. Micro molar quantities are determined by UV at λ_{max}.

Purity: Typical analysis is better than 98% (HPLC / UV / 260 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 1-NO-cAMP is readily soluble in water or buffer. When opening the tube please make sure that no substance is lost within the cap. Please rinse tube walls carefully and preferably use ultrasonic or vortex to achieve total and uniform mixing.

Stability and Storage: 1-NO-cAMP is chemically stable under conditions of biological systems and media. 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 cyclic AMP has multiple tasks in every organism it cannot be completely excluded that even polar cAMP analogues 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 Reference for 1-NO-cAMP:

Due to limited space we cannot cite all references for 1-NO-cAMP. If you do not find the information needed, please ask for a search in our data base for articles relevant for your field. Since we permanently collect all data available, we appreciate receiving respective information such as citations, reprints or accepted manuscripts as well as unpublished application reports.

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Hofbauer, K.; Schultz, A.; Schultz, J.E., *J. Biol. Chem.*, **283**, 25164 - 25170 (2008): "Functional Chimeras of the Phosphodiesterase 5 and 10 Tandem GAF Domains"

Scott, S.-P.; Shea, P.W.; Dryer, S., *Biochemistry*, **46**, 9417 - 9431 (2007): "Mapping Ligand Interactions with the Hyperpolarization Activated Cyclic Nucleotide Modulated (HCN) Ion Channel Binding Domain Using Soluble Construct"

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