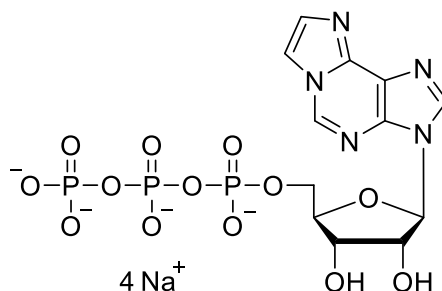


Technical Information about 1,N⁶-Etheno-ATP

Fluorescent analogue of adenosine-5'-O-triphosphate

Update: May 29, 2017 AI



Abbreviation: ϵ -ATP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₂ H ₁₆ N ₅ O ₁₃ P ₃ for free acid	[60777-99-3]	531.2 for free acid	λ_{max} 275 nm / ϵ 6000 / pH 7	E 004

Name: 1, N⁶- Ethenoadenosine- 5'- O- triphosphate (ϵ -ATP)

Description: ϵ -ATP is an analogue of the parent structure adenosine-5'-O-triphosphate in which both the N¹ and the N⁶ nitrogen atoms in the adenine nucleobase are connected by an etheno bridge forming a tricyclic ring system.

Properties: ϵ -ATP is a fluorescent analogue of ATP (λ_{exc} 300 nm and λ_{em} 415 nm).

Specification: Aqueous solution of the sodium salt (10 mM). Other salt forms of ϵ -ATP are available upon request. Micromolar quantities are determined by UV at λ_{max} . When opening the tube please make sure that no liquid is lost within the cap. A short spin-down in a bench centrifuge is recommended before use.

Purity: Typical analysis is better than 95% (HPLC / UV / 275 nm). The product is not sterile and has not been tested for endotoxins.

Stability and Storage: ϵ -ATP is most stable when stored as aqueous solution in the freezer (-20° Celsius necessary, -80° recommended), however, at ambient temperature the compound slowly starts to decompose. Thus, in order to maintain its original high quality it is recommended to allow thawing only before using the product. If you will not use up the vial with one application, please aliquot the contents of the vial in order to avoid repeated freeze/thaw cycles for the rest. When making such aliquots be sure to operate quickly and to freeze the vial again as soon as possible. Avoid bright light or UV radiation during handling.

Toxicity and Safety: Since adenosine triphosphate has multiple tasks in every organism, it is very likely that ATP analogues will interfere with many cell regulation processes *in vivo*.

ϵ -ATP is toxic if swallowed, if inhaled, and in contact with skin. It was reported to have genotoxic activity. The compound can cause serious irritation to eyes, skin, and respiratory/gastrointestinal tract.

Avoid contact with eyes and skin or ingestion. Product is to be handled with care by trained laboratory personnel only!

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!

Material Safety Datasheet available on request.

Selected References for ϵ -ATP:

Kinoshita, Y.; Nishigaki, K., *J. Biochem.*, **122**, 205 - 211 (1997): "Unexpectedly General Replaceability of ATP in ATP-Requiring Enzymes"

Leonard, N.J., *CRC Crit. Reviews Biochem.*, **15**, 125 - 199 (1983): "Ethno-substituted Nucleotides and Coenzymes: Fluorescence and Biological Activity"

Dorgan, L.J.; Schuster, S.M., *Arch. Biochem. Biophys.*, **207**, 165 - 174 (1981): "The Interaction of Nucleotides and Yeast Hexokinase"

Yip, K.F.; Tsou, K.C., *Tetrahedron Lett.*, **14**, 3087 - 3090 (1973): "Synthesis of Fluorescent Adenosine Derivatives"

Shahak, Y.; Chipman, D.M.; Shavit, N., *FEBS Lett.*, **33**, 293 - 296 (1973): "Photophosphorylation Studies with Fluorescent Adenine Nucleotide Analogs"

Secrist, J.A.3rd; Barrio, J.R.; Leonard, N.J.; Weber, G., *Biochemistry*, **11**, 3499 - 3506 (1972): "Fluorescent Modification of Adenosine-containing Coenzymes. Biological Activities and Spectroscopic Properties"