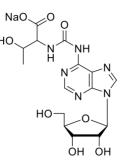


Technical Information about N⁶-Carbamoylthreonyladenosine

Update: September 18, 2018 HJ



Abbreviation:

t⁶-Ado

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₅ H ₁₉ N ₆ O ₈ ·Na	[24719-82-2]	434.4	λ_{max} 270 nm / ϵ 24900 / pH 7	C 022

Name: N6- Carbamoylthreonyladenosine

Description: t⁶-Ado is a natural analogue of adenosine where the amino group in position 6 of the adenine nucleobase has been linked to the amino acid L-threonine via a carbamoyl group.

Properties: Nucleoside with anticodon-adjacent base, present in transfer ribonucleic acid.

Specification: Crystallized or lyophilized sodium salt. Other salts of t⁶-Ado are available upon request. Please keep in mind that equal amounts of the compound may look different in volume depending on 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 / 270 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: t⁶-Ado has sufficient solubility in water or buffers. 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: t⁶-Ado 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 t⁶-Ado is a natural occurring structure, it could 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 t⁶-Ado:

Bullinger, D.; Neubauer, H.; Fehm, T.; Laufer, S.; Gleiter, C.H.; Kammerer, B., *BMC Biochemistry*, **8**, 1 - 14 (2007): "Metabolic Signature of Breast Cancer Cell Line MCF-7: Profiling of Modified Nucleosides via LC-IT MS Coupling"

Morin, A.; Auxilien, S.; Senger, B.; Tewari, R.; Grosjean, H., *RNA*, **4**, 24 - 37 (1998): "Structural Requirements for Enzymatic Formation of Threonylcarbamoyladenosine (t6A) in tRNA: an in Vivo Study with Xenopus Laevis Oocytes"



Topp, H.; Groß, H.; Heller-Schöch, G.; Schöch, G., *Nucleosides Nucleotides*, **12**, 585 - 596 (1993): "Determination of N' -Threoninocarbonyladenosine, N2,N2-Dimethylguanosine, Pseudouridine, and Other Ribonucleosides in Human Breast Milk"

Hagemeier, E.; Kemper, K.; Boos, K.S.; Schlimme, E., *J. Clin. Chem. Clin. Biochem.*, **22**, 175 - 184 (1984): "Development of a Chromatographic Method for the Quantitative Determination of Minor Ribonucleosides in Physiological Fluids. Characterization and Quantitative Determination of Minor Ribonucleosides in Physiological Fluids, Part I"

Dutta, S.P.; Hong, C.I..; Murphy, G.P.; Mittelman, A.; Chheda, G.B., *Biochemistry*, **14**, 3144 - 3151 (1975): "Synthesis and Properties of the Naturally Occuring N-[(9-beta-D-Ribofuranosylpurin-6-yl)-N-methylcarbamoyl]-L-threonine (mt6A) and Other Related Synthetic Analogs"

Schweizer, M.P.; McGrath, K.; Baczynskyj, L., *Biochem. Biophys. Res. Commun.*, **40**, 1046 - 1052 (1970): "The Isolation and Characterization of N-[9-(beta-D-ribofuranosyl)-purin-6-ylcarbamoyl]glycine from Yeast Transfer RNA"