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Technical Information about Rp-UTP-α-S

Stereoselective analogue of UTP with increased metabolic stability

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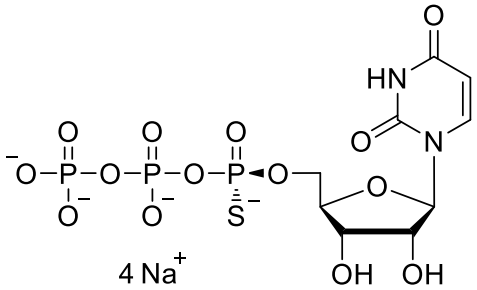

Abbreviation: **Rp-UTP-α-S**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
$C_9H_{15}N_2O_{14}P_3S$ (free acid)	[71214-30-7]	500.2 (free acid)	λ_{max} 262 nm / ε 10000 / pH 7	U 002

Name: Uridine- 5'- O- (1- thiotriphosphate), Rp- isomer

Description: Rp-UTP-α-S is the R-isomer of an analogue of uridine triphosphate (UTP) in which a non-bridging oxygen in the α-phosphate is replaced by sulfur. The suffix "p" indicates that R/S nomenclature refers to phosphorus.

Properties:

- **Useful for inhibition or activation of UTP-responsive receptors and determination of their stereospecificity.**
- **In contrast to the corresponding Sp-isomer not accepted by RNA polymerase.**
- **Higher metabolic stability towards many hydrolases.**

Specification: Aqueous solution of the sodium salt (10 mM). Other salts of Rp-UTP-α-S are available upon request. Micromolar quantities are determined by UV at $\lambda_{max.}$ 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 / 262 nm) at time of quality control and packing. However, actual purity depends on storage and transport conditions. The product is not sterile and has not been tested for endotoxins.

Stability and Storage: Rp-UTP-α-S is relatively stable when stored frozen in aqueous solution (- 20° celsius necessary, - 80° recommended), however, at ambient temperature the compound slowly starts to decompose forming UTP and other nucleotide fragments. 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.

Toxicity and Safety: Since triphosphates have important tasks in every organism, it is very likely that UTP 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 References for Rp-UTP-α-S:

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Connolly, B.A., *J. Biol. Chem.,* **257**, 3382 - 3384 (1982): "Stereospecific Substitution of Oxygen-18 for Sulfur in Nucleoside Phosphorothioates"

Sheu, K.-F.R.; Richard, J.P.; Frey, P.A., *Biochemistry* **18**, 5548 - 5556 (1979): "Stereochemical Courses of Nucleotidyltransferase and Phosphotransferase Action. Uridine Diphosphate Glucose Pyrophosphorylase, Galactose-1-phosphate Uridylyltransferase, Adenylate Kinase, and Nucleoside Diphosphate Kinase"

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