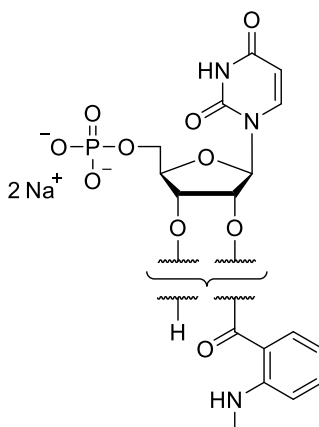


Technical Information about MANT-5'-UMP

Update: April 25, 2024 ss



Abbreviation:

MANT-5'-UMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₇ H ₂₀ N ₃ O ₁₀ P (free acid)	[1477570-22-1]	457.3 (free acid)	λ _{max} 355 nm / ε 5700 / pH 7	M 070

Name: 2'- / 3'- O- (N'- Methylanthraniloyl)uridine- 5'- O- monophosphate, sodium salt

Description: MANT-5'-UMP is an analogue of the natural structure 5'-UMP where either the ribose 2'-hydroxy or the 3' hydroxy group is esterified by the fluorescent methylisatoic acid.

Properties: MANT-5'-UMP is a fluorescent analogue of 5'-UMP with λ_{exc} 355 nm and λ_{em} 448 nm. The MANT fluorophore has a certain sensitivity for its environment and can change its spectral properties upon binding.

Specification: Lyophilized or crystallized sodium salt. Other salt forms are available upon request. Equal concentrations of MANT-5'-UMP can appear very different in volume due to 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 97% (HPLC / UV / 355 nm) for mixture of 2'- and 3'- isomers 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.

Solubility: MANT-5'-UMP is soluble in water (≥ 37 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: If MANT-5'-UMP is protected from light, it is sufficiently stable 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 5'-UMP has multiple tasks in every organism, it is not unlikely that its analogues 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 Reference for MANT-5'-UMP:

Reinecke, D.; Schwede, F.; Genieser, H.-G.; Seifert, R., *PLoS One*, **8** (1):e54158 (2013): "Analysis of Substrate Specificity and Kinetics of Cyclic Nucleotide Phosphodiesterases with N'-Methylanthraniloyl-substituted Purine and Pyrimidine 3',5'-cyclic Nucleotides by Fluorescence Spectrometry"

Selected Reference for Related (M)ANT Nucleotides:

Geduhn, J.; Dove, S.; Shen, Y.; Tang, W.-J.; König, B.; Seifert, R., *J. Pharmacol. Exp. Ther.*, **336**, 104 - 115 (2011): "Bis Halogen-Anthraniloyl-Substituted Nucleoside 5'-Triphosphate as Potent and Selective Inhibitors of *Bordetella Pertussis* Adenylyl Cyclase Toxin"