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Technical Information about 5-Biotin-11-cUMP

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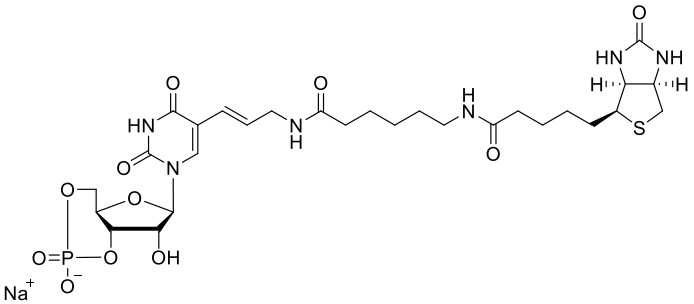

Abbreviation: **5-Biotin-11-cUMP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat.No.
$C_{28}H_{40}N_6O_{11}PS{\cdot}Na$	[pending]	722.7	λ_{max} 292 nm / ε 10500 / pH 7	B 219

Name: 5- (3- (6- [Biotinyl]aminohexanoyl)aminoallyl)uridine- 3', 5'- cyclic monophosphate, sodium salt

Description: 5-Biotin-11-cUMP is an analogue of the potential second messenger cyclic UMP (cUMP, BIOLOG Cat. No. U 001) in which the biotin label is connected to the 5-position of cUMP via an 11-atom spacer.

Properties: 5-Biotin-11-cUMP may be useful as tracer in immunoassays, for affinity chromatography or pull-down assays.

Specification: Lyophilized or crystallized 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 due to high 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 / 292 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 5-Biotin-11-cUMP is soluble in water (≥ 3 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: 5-Biotin-11-cUMP is chemically rather stable 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 cUMP could have multiple tasks in every organism it is not unlikely that 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 Reference for 5-Biotin-11-cUMP: 5-Biotin-11-cUMP is a new product and there are currently no references available.

Selected References for the Parent Compound cUMP (BIOLOG Cat. No. U 001):

Tal, N.; Morehouse, B.R.; Millman, A.; Stokar-Avihail, A.; Avraham, C.; Fedorenko, T.; Yirmiya, E.; Herbst, E.; Brandis, A.; Mehlman, T.; Oppenheimer-Shaanan, Y.; Keszei, A.F.A.; Shao, S.; Amitai, G.; Kranzusch, P.J.; Sorek, R., *Cell*, **184**, 5728 - 5739 (2021): "Cyclic CMP and Cyclic UMP Mediate Bacterial Immunity Against Phages"

Bähre, H.; Hartwig, C.; Munder, A.; Wolter, S.; Stelzer, T.; Schirmer, B.; Beckert, U.; Frank, D.W.; Tümmler, B.; Kaever, V.; Seifert, R., *Biochem. Biophys. Res. Commun.*, **460**, 909 - 914 (2015): "cCMP and cUMP Occur *in Vivo*"

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Beste, K.Y.; Spangler, C.M.; Burhenne, H.: Koch, K.-W.; Shen, Y.; Tang, W.; Kaever, V.; Seifert, R., *PLos ONE*, **8**, e70223 (2013): "Nucleotidyl Cyclase Activity of Particulate Guanylyl Cyclase A: Comparison with Particulate Guanylyl Cyclases E and F, Soluble Guanylyl Cyclase and Bacterial Adenylyl Cyclases Cyaa and Edema Factor"

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