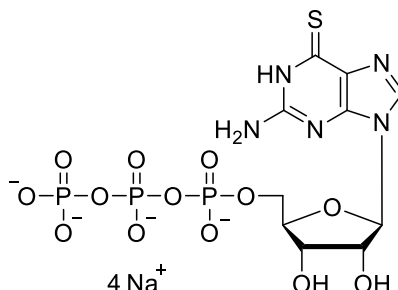


Technical Information about 6-Thio-GTP

Update: April 11, 2019 нп



Abbreviation: **6-T-GTP**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₀ H ₁₆ N ₅ O ₁₃ P ₃ S (free acid)	[17670-19-8]	539.3 (free acid)	λ _{max} 340 nm / ε 26000 / pH 7	T 016

Name: 6- Thioguanosine- 5'- O- triphosphate / 6- Mercaptoguanosine- 5'- O- triphosphate / 2- Amino- 6- mercaptopurine riboside- 5'- O- triphosphate

Description: 6-T-GTP is an analogue of guanosine-5'-O-triphosphate (GTP) in which the oxygen in position 6 of the guanine nucleobase is replaced by sulfur.

Properties: 6-T-GTP is a metabolite of azathioprine, an immunosuppressive drug that is used in the treatment of several diseases, including childhood acute lymphoblastic leukaemia (ALL) and inflammatory bowel disease.

Specification: Aqueous solution of the sodium salt (10 mM). Other salt forms of 6-T-GTP 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 purity is better than 95% (HPLC / UV / 340 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: 6-T-GTP 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.

Toxicity and Safety: Since triphosphates have multiple tasks in every organism, it is very likely that GTP 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 6-T-GTP:

Hawwa, A.F.; Millership, J.S.; Collier, P.S.; Vandenbroeck, K.; McCarthy, A.; Dempsey, S.; Cairns, C.; Collins, J.; Rodgers, C.; McElnay, J.C., *Br. J. Clin. Pharmacol.*, **66**, 517 - 528 (2008): "Pharmacogenomic Studies of the Anticancer and Immunosuppressive Thiopurines Mercaptopurine and Azathioprine"

Poppe, D.; Tiede, I.; Fritz, G.; Becker, C.; Bartsch, B.; Wirtz, S.; Strand, D.; Tanaka, S.; Galle, P.R.; Bustelo, X.R.; Neurath, M.F., *J. Immunol.*, **176**, 640 - 651 (2006): "Azathioprine Suppresses Ezrin-Radixin-Moesin-Dependent T Cell-APC Conjugation through Inhibition of Vav Guanosine Exchange Activity on Rac Proteins"

Cheng, H.-W.; Armstrong, R.D.; Sadee, W., *Cancer Res.*, **48**, 3648 - 3651 (1988): "Modulation of 6-Thioguanine Activity by Guanine in Human Promyelocytic Leukemia HL-60 Cells"

Fishback, J.L.; Yarbrough, L.R., *J. Biol. Chem.*, **259**, 1968 - 1973 (1984): "Interaction of 6-Mercapto-GTP with Bovine Brain Tubulin. Equilibrium Aspects"