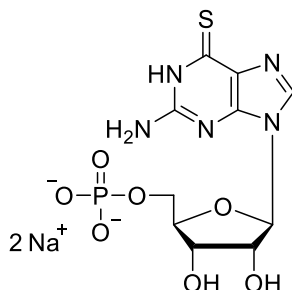


Technical Information about 6-Thio-5'-GMP

Update: October 15, 2018 HU



Abbreviation:

6-T-5'-GMP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₀ H ₁₄ N ₅ O ₇ PS (free acid)	[74686-78-5]	379.3 (free acid)	λ _{max} 340 nm / ε 26000 / pH 7	T 014

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

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

Properties: 6-T-5'-GMP 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: Crystallized or lyophilized sodium salt. For other salt forms of 6-T-5'-GMP please inquire. 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 / 340 nm). The product is not sterile and has not been tested for endotoxins.

Solubility: 6-T-5'-GMP is soluble in water (≥ 18 mM). 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: 6-T-5'-GMP 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 nucleoside monophosphates have multiple tasks in every organism, it is very likely that 5'-GMP 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-5'-GMP:

Lebars, I.; Vileno, B.; Bourbigot, S.; Turek, P.; Wolff, P.; Kieffer, B., *Nucleic Acids Res.*, **42**, e117 (2014): "A Fully Enzymatic Method for Site-directed Spin Labeling of Long RNA"

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"

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"