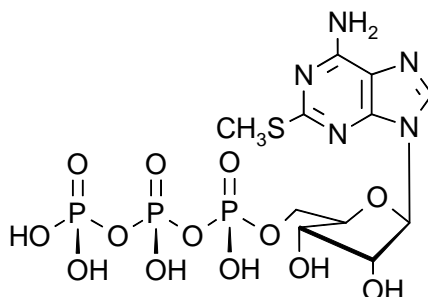


Technical Information about 2-Methylthio-ATP

Update: February 03, 2012 AI



Abbreviation: 2-MeS-ATP / 2-MeSATP

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₁ H ₁₈ N ₅ O ₁₃ P ₃ S (free acid)	[43170-89-4]	553.3 (free acid)	λ _{max} 277 nm / ε 14700 / pH 11	M 021

Name: 2- Methylthioadenosine- 5'- O- triphosphate

Description: 2-MeS-ATP is an analogue of adenosine triphosphate (ATP), where the hydrogen in position 2 of the adenine nucleobase has been replaced by a methylthio group.

Properties: 2-MeS-ATP is a P2Y purinoceptor agonist. It inhibits soluble guanylate cyclase.

Specification: Aqueous solution of the sodium salt (10 mM). Other salt forms of 2-MeS-ATP are available upon request. Micromolar quantities are determined by UV at λ_{max}. When opening the tube 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 / 277 nm) at time of quality control and packing. The product is not sterile and has not been tested for endotoxins.

Stability and Storage: 2-MeS-ATP 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 nucleoside triphosphates have multiple tasks in every organism, it is very likely that ATP 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 2-MeS-ATP:

Swennen, E.L.; Bast, A.; Dagnelie, P.C., *Biochem. Biophys. Res. Commun.*, 348, 1194 - 1199 (2006): "Purinergic Receptors Involved in the Immunomodulatory Effects of ATP in Human Blood"

Ruiz-Stewart, I.; Kazerounian, S.; Pitari, G.M.; Schulz, S.; Waldman, S.A., *Eur. J. Biochem.*, **269**, 2186 - 2193 (2002): "Soluble Guanylate Cyclase is Allosterically Inhibited by Direct Interaction with 2-substituted Adenine Nucleotides"

Burnstock, G.; Cusack, N.J.; Hills, J.M.; MacKenzie, I.; Meghji, P., *Br. J. Pharmacol.*, **79**, 907 - 913 (1983): "Studies on the Stereoselectivity of the P2-Purinoceptor"

Cusack, N.J.; Hourani, S.M.O., *Br. J. Pharmacol.*, **75**, 397 - 400 (1982): "Specific but Noncompetitive Inhibition by 2-Alkylthio Analogues of Adenosine 5'-monophosphate and Adenosine 5'-triphosphate of Human Platelet Aggregation Induced by Adenosine 5'-diphosphate"