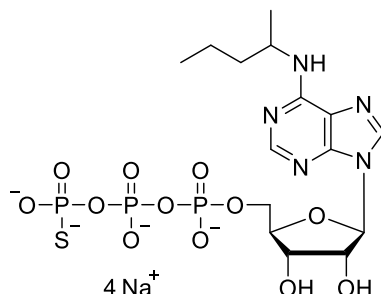


Technical Information about 6-(1-MeBu)-ATP- γ -S

Update: November 05, 2018 HJ



Abbreviation: **6-(1-MeBu)-ATP- γ -S**

Formula	CAS No.	Molecular Weight	UV	BIOLOG Cat. No.
C ₁₅ H ₂₆ N ₅ O ₁₂ P ₃ S	[pending]	593.4 (free acid)	λ_{\max} 268 nm / ϵ 17000 / pH 7	M 074

Name: N⁶-(1-Methylbutyl)adenosine-5'-O-(3-thiotriphosphate)

Description: 6-(1-MeBu)-ATP- γ -S is an analogue of adenosine-5'-O-triphosphate (ATP) in which one of the non-bridging oxygens at the γ -phosphate is replaced by sulphur. In addition, one hydrogen of the 6-amino group has been substituted by a 1-methylbutyl moiety.

Properties: 6-(1-MeBu)-ATP- γ -S is useful for specific interaction with modified receptor proteins and can be used in studies on kinase-substrate relationships (chemical genetics).

Related structures: 6-Bn-ATP- γ -S (Cat. No. B 072), 6-cHe-ATP- γ -S (Cat. No. C 127), 6-cPe-ATP- γ -S (Cat. No. C 116), 6-Fu-ATP- γ -S (Cat. No. F 008), 6-PhEt-ATP- γ -S (Cat. No. P 026).

Specification: Aqueous solution of the sodium salt (10 mM). Other salt forms of 6-(1-MeBu)-ATP- γ -S 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 / 268 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-(1-MeBu)-ATP- γ -S 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. For stability reasons it is essential that the pH value of the product solution never drops below 7 which can be achieved by addition of a suitable buffer (pH 7 - 9).

Toxicity and Safety: Since 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!

References for 6-(1-MeBu)-ATP- γ -S:

6-(1-MeBu)-ATP- γ -S is a new structure which has been synthesized by BIOLOG LSI for the first time. There are no corresponding references available at the moment.

Selected References for Related Compounds and the "Chemical Genetics Approach":

Lo, H.-C.; Hollingsworth, N.M., *Methods Mol. Biol.*, **745**, 135 - 149 (2011): "Using the Semi-synthetic Epitope System to Identify Direct Substrates of the Meiosis-specific Budding Yeast Kinase, Mek1"

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Blethrow, J.D.; Glavy, J.S.; Morgan, D.O.; Shokat, K.M., *Proc. Natl. Acad. Sci. USA*, **105**, 1442 - 1447 (2008): "Covalent Capture of Kinase-specific Phosphopeptides Reveals Cdk1-cyclin B Substrates"

Allen, J.J.; Li, M.; Brinkworth, C.S.; Paulson, J.L.; Wang, D.; Hübner, A.; Chou, W.H.; Davis, R.J.; Burlingame, A.L.; Messing, R.O.; Katayama, C.D.; Hedrick, S.M.; Shokat, K.M., *Nature Meth.*, **4**, 511 - 516 (2007): "A Semisynthetic Epitope for Kinase Substrates"

Allen, J.J.; Lazerwith, S.E.; Shokat, K.M., *J. Am. Chem. Soc.*, **127**, 5288 - 5289 (2005): "Bio-orthogonal Affinity Purification of Direct Kinase Substrates"