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Product Information

Adenosine 5'-[γ -thio]triphosphate tetralithium salt

Product Number **A 1388**

Storage Temperature -20 °C

Product Description

Molecular Formula: C₁₀H₁₂Li₄N₅O₁₂P₃S

Molecular Weight: 547.0

CAS Number: 93839-89-5

Synonym: ATP- γ -S

This product is a non-hydrolyzable ATP analog phosphorothioate. It effectively cannot be hydrolyzed by ATPase (the rate of hydrolysis is 1/200th that of normal ATP).¹

Phosphorothioates or phosphothioates are compounds where one oxygen of a phosphate is replaced with a sulfur. This modification is most often used with nucleotide analogues:
cyclic-phosphorothioate, cAMP analog (Product No. A 7580)
 α -phosphorothioate, AMP analog (Product No. A 1640)
 β -phosphorothioates, ADP analog (Product No. A 8016)
GDP analog (Product No. G 7637)
 γ -phosphorothioates, ATP analog (Product No. A 1388)
GTP analog (Product No. G 8634).

This material is an inhibitor of alkaline phosphatase and a substrate for *E. coli* DNA-dependent RNA polymerase ($K_M = 3.8 \times 10^{-5}$ M). It can also be hydrolyzed by snake-venom phosphodiesterase. ATP- γ -S can be translocated by mitochondrial ATP/ADP translocase, and it is a potent inhibitor of ATP-driven reverse electron transport.²

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble water (10 mg/ml), yielding a clear solution.

References

1. Yasuoka, K., et al., Interaction of adenosine-5'-O-(3-thiotriphosphate) with Ca²⁺, Mg²⁺-adenosine triphosphatase of sarcoplasmic reticulum. *J. Biochem. (Tokyo)*, **91**, 1629-1637 (1982).
2. Data for Biochemical Research, 3rd ed., Dawson, R. M. C., et al., Oxford University Press (New York, NY: 1986), p. 261.

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