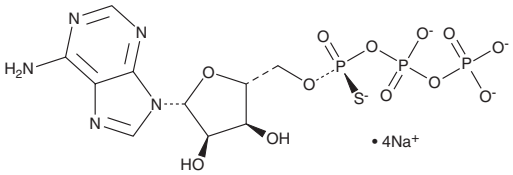
PRODUCT INFORMATION

Rp-Adenosine-5'-O-(1-thiotriphosphate) (sodium salt)

Item No. 38535

Formal Name: Adenosine, 5′→P′′-ester with [P′′(R)]-thiotriphosphoric acid ((HO)2P(O)OP(O)(OH)OP(O)(OH)(SH)), tetrasodium salt
Synonym: Rp-ATP-α-S
MF: $C_{10}H_{12}N_5O_{12}P_3S$ • 4Na
FW: 611.2
Purity: ≥95%
Supplied as: A solution in water
Storage: -80°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Description

Rp-ATP-α-S is an isomer of the sulfur-containing nucleotide derivative ATP-α-S and an agonist of the purinergic $P2Y_1$ receptor.[1] It increases calcium mobilization in HEK293 cells expressing the human $P2Y_1$ receptor (EC_{50} = 75 nM). Rp-ATP-α-S binds to washed isolated human platelets (K_i = 156 nM), inhibits ADP-induced aggregation of isolated human platelet-rich plasma (PRP; pA_2 = 4.74), and inhibits cAMP production induced by prostaglandin E_1 (PGE_1; Item No. 13010) in isolated human PRP (pA_2 = 5.26).[1,2] It also induces relaxation of carbamoylcholine-preconstricted guinea pig taenia coli strips (EC_{50} = 56 nM).[3] Rp-ATP-α-S has been used in the synthesis of cyclic dinucleotides that are recognized by bacterial riboswitches.[4]

References

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3. Cusack, N.J. and Hourani, S.M. Adenosine 5-diphosphate antagonists and human platelets: No evidence that aggregation and inhibition of stimulated adenylate cyclase are mediated by different receptors. *Br. J. Pharmacol*. **76(1)**, 221-227 (1982).
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5. Launer-Felty, K.D. and Strobel, S.A. Enzymatic synthesis of cyclic dinucleotide analogs by a promiscuous cyclic-AMP-GMP synthetase and analysis of cyclic dinucleotide responsive riboswitches. *Nucleic Acids Res*. **46(6)**, 2765-2776 (2018).

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