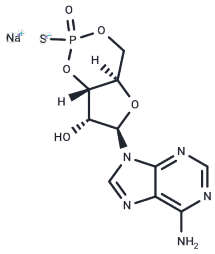
Data Sheet (Cat.No.T36679)

TargetMol

Rp-cAMPS sodium

Chemical Properties



CAS No. :	142439-94-9
Formula:	C10H11N5NaO5PS
Molecular Weight:	367.25
Storage:	Store at low temperature,Keep away from direct sunlight Powder: -20°C for 3 years | In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.

Biological Description

Description	Rp-cAMPS sodium is a phosphorothioate analog of cAMP, a protein kinase A inhibitor and a membrane-permeable cAMP antagonist that inhibits cAMP-dependent protein kinases by blocking cAMP-induced conformational transitions, and can be used in the study of cardiovascular diseases.
Targets(IC50)	cAMP,PKA
In vitro	**METHODS**: To measure the inhibitory effect of Rp-cAMPS sodium on purified type II cAMP-dependent protein kinase, different concentrations of Rp-cAMPS sodium were added, and their impact on cAMP-induced phosphotransferase activity was observed. **RESULTS**: Rp-cAMPS sodium binds to cAMP but does not cause enzyme dissociation, thereby inhibiting the activity of the phosphotransferase[2].
In vivo	**METHODS**: To investigate the effect of Rp-cAMPS sodium on synaptic transmission in a rat arthritis model, particularly its modulation of PB-CeLC and BLA-CelC synapses, EPSCs were evoked by stimulating the PB-CeLC and BLA-CelC synapses, and the changes before and after treatment were compared. **RESULTS**: Treatment with Rp-cAMPS sodium (10 μM, 15 minutes) significantly reduced the evoked single-synaptic EPSCs at the PB-CeLC and BLA-CelC synapses [2].

Solubility Information

Solubility	H2O: 80 mg/mL (217.84 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.7229 mL	13.6147 mL	27.2294 mL
5 mM	0.5446 mL	2.7229 mL	5.4459 mL
10 mM	0.2723 mL	1.3615 mL	2.7229 mL
50 mM	0.0545 mL	0.2723 mL	0.5446 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

R J de Wit, et al. Inhibitory action of certain cyclophosphate derivatives of cAMP on cAMP-dependent protein kinases. Eur J Biochem. 1984 Jul 16;142(2):255-60.
Rothermel JD, et al. A mechanistic and kinetic analysis of the interactions of the diastereoisomers of adenosine 3', 5'-(cyclic)phosphorothioate with purified cyclic AMP-dependent protein kinase. Biochem J. 1988 May 1;251(3):757-62.
Fu Y, et al. PKA and ERK, but not PKC, in the amygdala contribute to pain-related synaptic plasticity and behavior. Mol Pain. 2008 Jul 16;4:26.
Kuriyama S, et al. Isoproterenol inhibits rod outer segment phagocytosis by both cAMP-dependent and independent pathways. Invest Ophthalmol Vis Sci. 1995 Mar;36(3):730-6.
Dostmann WR, et al. Probing the cyclic nucleotide binding sites of cAMP-dependent protein kinases I and II with analogs of adenosine 3',5'-cyclic phosphorothioates. J Biol Chem. 1990 Jun 25;265(18):10484-91.
Van Haastert PJ, et al. Competitive cAMP antagonists for cAMP-receptor proteins. J Biol Chem. 1984 Aug 25;259 (16):10020-4.