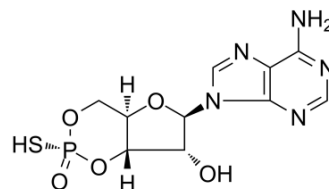


## Rp-cAMPS

<b>Cat. No.:</b>	HY-100530A
<b>CAS No.:</b>	73208-40-9
<b>Molecular Formula:</b>	C <sub>10</sub> H <sub>12</sub> N <sub>5</sub> O <sub>5</sub> PS
<b>Molecular Weight:</b>	345.27
<b>Target:</b>	PKA
<b>Pathway:</b>	Protein Tyrosine Kinase/RTK; Stem Cell/Wnt
<b>Storage:</b>	Please store the product under the recommended conditions in the Certificate of Analysis.



### BIOLOGICAL ACTIVITY

<b>Description</b>	Rp-cAMPS, a cAMP analog, is a potent, competitive cAMP-induced activation of cAMP-dependent PKA I and II (K <sub>i</sub> s of 12.5 μM and 4.5 μM, respectively) antagonist. Rp-cAMPS is resistant to hydrolysis by phosphodiesterases <sup>[1][2][3][4][5][6]</sup> .
<b>IC<sub>50</sub> &amp; Target</b>	Ki: 6.05 μM (PKA I) and 9.75 μM (PKA II) <sup>[1]</sup>
<b>In Vitro</b>	A membrane-permeable competitive cAMP antagonist (Rp-cAMPS) that blocks PKA activation by binding to the regulatory subunits without dissociating the kinase holoenzyme also inhibits synaptic plasticity but has no effect on normal synaptic transmission <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.
<b>In Vivo</b>	Rp-cAMPS (10 μM, 15 min) decreases the monosynaptic EPSCs evoked at the PB-CeLC and BLA-CeLC synapses in slices from arthritic rats but not in control neurons from normal animals. The inhibitory effect of Rp-cAMPS is significant compared to predrug (ACSF) control values obtained in the same neurons <sup>[2]</sup> . MCE has not independently confirmed the accuracy of these methods. They are for reference only.

### CUSTOMER VALIDATION

- Theranostics. 2021 Mar 24;11(12):5650-5674.

See more customer validations on [www.MedChemExpress.com](http://www.MedChemExpress.com)

### REFERENCES

- [1]. 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.
- [2]. 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.
- [3]. 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.

---

[4]. 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.

[5]. Van Haastert PJ, et al. Competitive cAMP antagonists for cAMP-receptor proteins. J Biol Chem. 1984 Aug 25;259(16):10020-4.

[6]. 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.

---

**Caution: Product has not been fully validated for medical applications. For research use only.**

Tel: 609-228-6898

Fax: 609-228-5909

E-mail: [tech@MedChemExpress.com](mailto:tech@MedChemExpress.com)

Address: 1 Deer Park Dr, Suite Q, Monmouth Junction, NJ 08852, USA