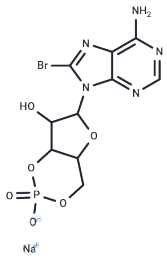
Data Sheet (Cat.No.T6747)

TargetMol

8-Bromo-cAMP sodium salt

Chemical Properties



CAS No. : 76939-46-3

Formula: C10H10BrN5NaO6P

Molecular Weight: 430.08

Storage: 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	8-Bromo-cAMP sodium salt (8-Br-Camp sodium salt) is a long-acting derivative of cyclic AMP. It is an activator of cyclic AMP-dependent protein kinase（PKA）, but resistant to degradation by cyclic AMP phosphodiesterase.
Targets(IC50)	Apoptosis,PKA
In vitro	**METHODS**: Endothelial HUVECs were treated with 8-Bromo-cAMP sodium salt (100 μM) for 3 h. Cell migration was detected by Boyden Chamber assay. **RESULTS**: Increased cell migration was observed when conditioned media from MC3T3-E1 cells exposed to 8-Bromo-cAMP was supplemented with HUVECs. In contrast, conditioned medium from control untreated cells lacked this activity. [1] **METHODS**: The leukemia cell line AML193 was treated with 8-Bromo-cAMP sodium salt (1 mM) or IL-3 (500 ng/mL) for 1-15 min, and target protein expression levels were detected by Western Blot. **RESULTS**: In growth-arrested AML193 cells, the maximal effect of IL-3 on Erk1,2 phosphorylation was time-dependent and occurred within a time window of 5-15 min after the addition of growth factors. 8-Bromo-cAMP also induced Erk1,2 phosphorylation in these cells, with a maximal stimulation observable between 1-5 min.
In vivo	**METHODS**: To evaluate the effect of cAMP/PCA on angiogenesis and VM in CRC cells, 8-Bromo-cAMP sodium salt (60 mg/kg) was intraperitoneally injected into BALB/c mice bearing CT26 tumor tissues once a day for seven days. **RESULTS**: 8-Bromo-cAMP treatment significantly reduced the number of tumors. 8-Bromo-cAMP treatment inhibited angiogenesis and VM. 8-Bromo-cAMP acted through the cAMP/PKA-ERK pathway and EMT process in CRC. [3]

Solubility Information

Solubility	H2O: 80 mg/mL (186.01 mM),Heating is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 128 mg/mL (297.62 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	5% DMSO + 40% PEG300 + 5% Tween-80 + 50% ddH2O: 0.624 PBS: 100 mg/mL (232.51 mM) *Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and*

In vivo Formulation	*used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.*

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.3251 mL	11.6257 mL	23.2515 mL
5 mM	0.465 mL	2.3251 mL	4.6503 mL
10 mM	0.2325 mL	1.1626 mL	2.3251 mL
50 mM	0.0465 mL	0.2325 mL	0.465 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

Lo KW, et al. One-day treatment of small molecule 8-bromo-cyclic AMP analogue induces cell-based VEGF production for in vitro angiogenesis and osteoblastic differentiation. J Tissue Eng Regen Med. 2016 Oct;10(10):867-875.

Sun N, Zhang Y, Hou Y, et al. Effects of Osthole on Progesterone Secretion in Chicken Preovulatory Follicles Granulosa Cells. Animals. 2020, 10(11): 2027.

Shan G, Bi G, Zhao G, et al.Inhibition of PKA/CREB1 pathway confers sensitivity to ferroptosis in non-small cell lung cancer.Respiratory Research.2023, 24(1): 1-15.

Barge RM, et al. 8-Bromo-cAMP induces a proliferative response in an IL-3 dependent leukemic cell line and activates Erk 1,2 via a Shc-independent pathway. Biochim Biophys Acta. 1997 Feb 4;1355(2):141-6.

Wang S, et al. Angiogenesis and vasculogenic mimicry are inhibited by 8-Br-cAMP through activation of the cAMP/PKA pathway in colorectal cancer. Onco Targets Ther. 2018 Jul 2;11:3765-3774.