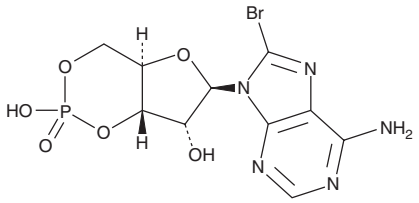
PRODUCT INFORMATION

8-bromo Cyclic AMP

Item No. 18141

CAS Registry No.: 23583-48-4
Formal Name: 8-bromo-adenosine cyclic 3',5'-(hydrogen phosphate)
Synonyms: 8-Bromoadenosine 3',5'-cyclic monophosphate, 8-bromo cAMP, NSC 171719
MF: $C_{10}H_{11}BrN_5O_6P$
FW: 408.1
Purity: ≥95%
UV/Vis.: λ_{max}: 213, 263 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

8-bromo Cyclic AMP is supplied as a crystalline solid. Aqueous solutions of 8-bromo cyclic AMP can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 8-bromo cyclic AMP in PBS (pH 7.2) is approximately 3 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

8-bromo Cyclic AMP is an activator of protein kinase A (PKA) with a half-maximal activation (K_a) value of 0.05 µM.[1] It is selective for PKA over cGMP-dependent protein kinase (PKG; K_a = 5.8 µM) and is more resistant to hydrolysis by phosphodiesterases (PDEs) compared with cAMP (Item No. 18820).[1,2] 8-bromo Cyclic AMP inhibits the proliferation of HL-60 leukemia cells (IC_{50} = 18 µM after six days).[2] It induces relaxation of isolated rabbit carotid or renal arterial rings precontracted with phenylephrine when used at concentrations ranging from 10 to 300 µM.[3] Intradermal administration of 8-bromo cyclic AMP (10 nmol/site) prevents scratching and increases in cutaneous leukotriene B_4 (LTB_4) production induced by the proteinase-activated receptor 2 (PAR2) agonist SLIGRL-NH_2 (Item No. 16723) in mice.[4]

References

1. Sandberg, M., Butt, E., Nolte, C., *et al.* Characterization of Sp-5,6-dichloro-1-β-D-ribofuranosylbenzimidazole-3',5'-monophosphorothioate (Sp-5,6-DCl-cBiMPS) as a potent and specific activator of cyclic-AMP-dependent protein kinase in cell extracts and intact cells. *Biochem. J.* **279(Pt 2)**, 521-527 (1991).
2. Yokozaki, H., Tortora, G., Pepe, S., *et al.* Unhydrolyzable analogues of adenosine 3':5'-monophosphate demonstrating growth inhibition and differentiation in human cancer cells. *Cancer Res.* **52(9)**, 2504-2508 (1992).
3. Minonishi, T., Ogawa, K., Tokinaga, Y., *et al.* Differential vasodilation response to olprinone in rabbit renal and common carotid arteries. *J. Anesth.* **24(1)**, 61-66 (2010).
4. Andoh, T. and Kuraishi, Y. Antipruritic mechanisms of topical E6005, a phosphodiesterase 4 inhibitor: Inhibition of responses to proteinase-activated receptor 2 stimulation mediated by increase in intracellular cyclic AMP. *J. Dermatol. Sci.* **76(3)**, 206-213 (2014).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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