

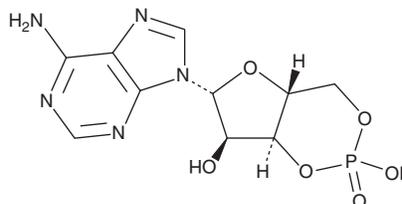
PRODUCT INFORMATION



Cyclic AMP

Item No. 18820

CAS Registry No.: 60-92-4
Formal Name: cyclic 3',5'-(hydrogen phosphate) adenosine
Synonyms: Adenosine 3',5'-cyclic monophosphate, cAMP, Cyclic adenosine monophosphate, NSC 94017, NSC 143670
MF: C₁₀H₁₂N₅O₆P
FW: 329.2
Purity: ≥98%
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

Cyclic AMP is supplied as a crystalline solid. Aqueous solutions of cyclic AMP can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of cyclic AMP in PBS (pH 7.2) is approximately 10 mg/ml. Cyclic AMP is also soluble in water. The solubility of cyclic AMP in water is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

cAMP is a central second messenger in cell signaling, propagating signals from receptors to downstream pathways. It is generated from ATP by several adenylate cyclase enzymes, which are modulated by G protein-coupled receptors.¹ cAMP activates protein kinase A and the exchange proteins activated by cAMP (Epac1 and Epac2), which are nucleotide exchange factors for the Rap family of GTPases.^{2,3} cAMP is degraded to AMP by cyclic nucleotide phosphodiesterases.⁴

References

1. Dorsam, R.T. and Gutkind, J.S. G-protein-coupled receptors and cancer. *Nat. Rev. Cancer* **7**, 79-94 (2007).
2. Shabb, J.B. Physiological substrates of cAMP-dependent protein kinase. *Chem. Rev.* **101**, 2381-2411 (2001).
3. Breckler, M., Berthouze, M., Laurent, A.-C., et al. Rap-linked cAMP signaling Epac proteins: Compartmentation, functioning and disease implications. *Cell. Signal.* **23(8)**, 1257-1266 (2011).
4. Scott, J.D., Dessauer, C.W., and Tasken, K. Creating order from chaos: Cellular regulation by kinase anchoring. *Annu. Rev. Pharmacol. Toxicol.* **53**, 187-210 (2013).

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.

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