8-Bromo-cAMP is a membrane-permeable cAMP derivative. It can activate cAMP-dependent protein kinase, with long-acting effects due to its resistance to cAMP phosphodiesterase (Schwede et al.). It can be used to study calcium-mediated pathways (IC₅₀ = 0.84 mM; Xaus et al.).

**Molecular Name:** 8-Bromo-cAMP

**Alternative Names:** 8-BrcAMP; 8-Bromoadenosine 3′,5′-cyclic monophosphate; NSC 171719

**CAS Number:** 23583-48-4

**Chemical Formula:** C₁₀H₁₁BrN₅O₆P

**Molecular Weight:** 408.1 g/mol

**Purity:** ≥ 95%

**Chemical Name:** 8-bromo-adenosine cyclic 3′,5′-(hydrogen phosphate)

**Structure:**

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**Physical Appearance:** A crystalline solid

**Storage:**
- Product stable at -20°C as supplied. Protect product from prolonged exposure to light. For long-term storage store with a desiccant.
- Stable as supplied for 12 months from date of receipt.

**Solubility:**
- PBS (pH 7.2) ≤ 7.4 mM
- For example, to prepare a 5 mM stock solution in PBS, resuspend 10 mg in 4.9 mL of PBS.

Prepare stock solution fresh before use. Information regarding stability of small molecules in solution has rarely been reported, however, as a general guide we recommend storage in PBS at -20°C. Aliquot into working volumes to avoid repeated freeze-thaw cycles. The effect of storage of stock solution on compound performance should be tested for each application.

For use as a cell culture supplement, stock solution should be diluted into culture medium immediately before use.
Published Applications

REPROGRAMMING

- Improves the reprogramming efficiency of human neonatal foreskin fibroblast (HFF1) cells, in combination with Valproic Acid (Catalog #72292) (Wang & Adjaye).

IMMUNOLOGY

- Inhibits M-CSF-dependent proliferation of macrophages (Xaus et al.).
- Protects neutrophils against TNF-α-induced apoptosis (Krakstad).

CANCER RESEARCH

- Induces a proliferative response in an IL-3-dependent leukemic cell line (Barge et al.).
- Induces membrane depolarization in pancreatic cancer cell lines (Sorio et al.).

References


Related Small Molecules

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