

**Product Name:** Dibutyryl-cAMP, sodium salt

**Catalog No.:** 1141

**Batch No.:** 38

CAS Number: 16980-89-5

EC Number: 241-059-4

IUPAC Name: *N*<sup>6</sup>,*O*<sup>2</sup>-Dibutyryl adenosine 3',5'-cyclic monophosphate sodium salt

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>18</sub>H<sub>23</sub>N<sub>5</sub>NaO<sub>8</sub>P.1¼H<sub>2</sub>O

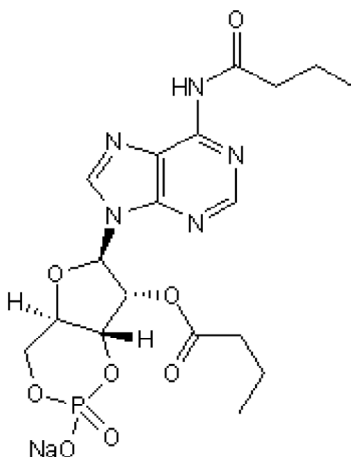
**Batch Molecular Weight:** 513.89

**Physical Appearance:** White solid

**Solubility:** water to 100 mM  
DMSO to 100 mM

**Storage:** Store at -20°C

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**HPLC:** Shows 98.7% purity

**<sup>1</sup>H NMR:** Consistent with structure

**Mass Spectrum:** Consistent with structure

**Microanalysis:**

	Carbon	Hydrogen	Nitrogen
Theoretical	42.07	5	13.63
Found	41.59	5	13.2

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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**Description:**

Dibutyryl-cAMP sodium salt is a cell-permeable analog of cAMP that activates cAMP-dependent protein kinases and is a phosphodiesterase inhibitor. Combined with other reagents, dibutyryl-cAMP promotes differentiation of neural stem/progenitor cells (NSPCs) and other cell lines and increases survival rates of NSPCs and differentiation into neurons in vivo. Promotes neurite outgrowth in cell cultures. Dibutyryl-cAMP has anti-inflammatory activity and is used to promote wound healing. Choline acetyltransferase and vesicular acetylcholine transporter mRNA are increased in cells treated with dibutyryl-cAMP.

**Physical and Chemical Properties:**

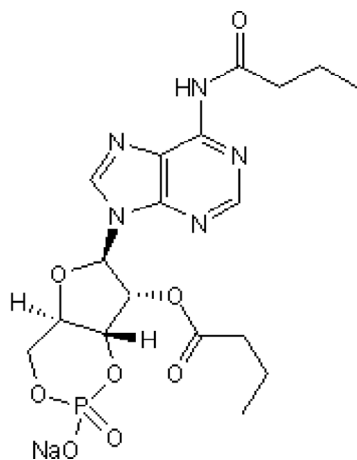
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Batch Molecular Weight: 513.89

Physical Appearance: White solid

**Minimum Purity:** ≥98%

**Batch Molecular Structure:**



**Storage:** Store at -20°C

**Solubility & Usage Info:**

water to 100 mM

DMSO to 100 mM

**Stability and Solubility Advice:**

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. \*Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

**SOLIDS:** Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

**SOLUTIONS:** We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

**References:**

**Xia et al** (2016) Transcriptional comparison of human induced and primary midbrain DArgic neurons. *Sci.Rep.* **6** 20270. PMID: 26842779.

**Kim et al** (2011) Effects of dibutyryl cyclic-AMP on survival and neuronal differentiation of neural stem/progenitor cells transplanted into spinal cord injured rats. *PLoS One* **6**. PMID: 21738784.

**Carranza et al** (1998) Protein kinase A induces recruitment of active Na<sup>+</sup>,K<sup>+</sup>-ATPase units to the plasma membrane of rat proximal convoluted tubule cells. *J.Physiol.* **511** 235. PMID: 9679177.

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