

## Dibutyryl cAMP

PKA Activator

### Catalog # P51-901

Lot # J3942-17

CAS # 16980-89-5

### Product Description

Molecular Formula: C<sub>18</sub>H<sub>23</sub>N<sub>5</sub>O<sub>8</sub>P · Na

Appearance: White powder

Molecular Weight: 491.4

Purity: >98% (HPLC); NMR (conforms)

Solubility: May be dissolved DMSO (50 mg/ml); water (50 mg/ml)

### Alias

N<sup>6</sup>, O<sup>2'</sup>-Dibutyryl adenosine 3', 5'-cyclic monophosphate sodium salt; Bucladesine Na

### Specific Activity

PKA Activator

### Storage and Stability

Store desiccated as supplied at -20°C for up to 2 years.

Store solutions at -20°C for up to 1 month.

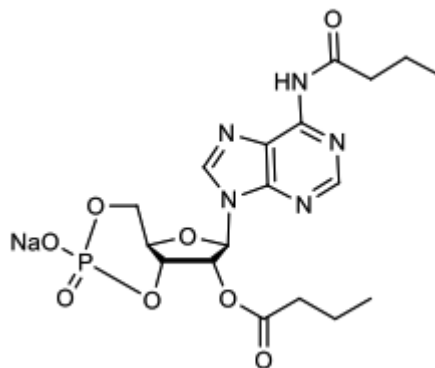
### Scientific Background

Cell-permeable cAMP analog which mimics the effect of endogenous cAMP when applied to cells (1). Activates PKA (2, 3). Induces morphological differentiation of astrocytes (4). Promotes differentiation of dopaminergic neurons from hPSCs (in cocktails with other agents) (5).

### References

1. Bartsch M et al. Biol. Chem. 2003 384:1321
2. Carranza ML et al. J. Physiol. 1998 15:511
3. Hei YJ et al. Mol. Pharmacol. 1991 39:233
4. Imamura M et al. Proc. Natl. Acad. Sci. USA 1998 95:6139
5. Xia N et al. Sci. Rep. 2016 6:20270

### Molecular Structure



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Format	White powder
Solubility	May be dissolved DMSO (50 mg/ml); water (50 mg/ml)
Storage & Shipping	Store desiccated as supplied at -20°C for up to 2 years. Store solutions at -20°C for up to 1 month.

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# SAFETY DATA SHEET

## Article 1 – Identification of the Substance

**Product Name: Dibutyl cAMP**

**Catalog # P51-901**

*This product is sold only for research use by qualified laboratory personnel, and is not to be used as a drug, medical device, food additive, cosmetic, nor household chemical. It is not to be used in diagnostic, therapeutic, consumer, agricultural, nor pesticidal applications.*

Manufacturer's Name: SignalChem Biotech Inc.  
Street Address: 110-13120 Vanier Place  
City, Prov. Postal Code: Richmond, BC, V6V 2J2  
Fax: 604-232-4601  
EMERGENCY PHONE: 604-232-4600

## Article 2 - Hazardous Identification

### 2.1 Classification of Substance (GHS)

None

### 2.2 Label Elements

None

**GHS Signal Word:** None

**GHS Hazard Phrases:** Based on evaluation of currently available data this substance or mixture is not classifiable according to GHS.

**GHS Precaution Phrases:** No phrases apply.

**GHS Response Phrases:** No phrases apply.

**GHS Storage and Disposal Phrases:**

Please refer to Section 7 for Storage and Section 13 for Disposal Information

**2.3 Other hazards:** Material may be irritating to the mucous membranes and upper respiratory tract.

Effects and Symptoms: May be harmful by inhalation, ingestion, or skin absorption.

May cause eye, skin, or respiratory system irritation.

To the best of our knowledge, the toxicological properties have not been thoroughly investigated.

## Article 3 – Composition/Information on Ingredients

### 3.1 Substance

**Product Name(s):** Dibutyl cAMP  
**Chemical Name:** N<sup>6</sup>, O<sup>2'</sup>-Dibutyl adenosine 3', 5'-cyclic monophosphate sodium salt  
**Molecular Formula:** C<sub>18</sub>H<sub>23</sub>N<sub>5</sub>O<sub>8</sub>P · Na  
**CAS Number:** 16980-89-5  
**Concentration:** 100%

## Article 4 – First Aid

### 4.1 Description of First Aid Measures

**General:** Move out of dangerous area and contact a doctor. Provide them with this data sheet.

**If Inhaled:** Move to fresh air, and monitor breathing. Give artificial respiration if breathing stops. Get immediate medical attention.

**In Case of Skin Contact:** Remove contaminated clothing. Immediately wash with soap and water for an extended period of time. Consult a doctor if symptoms occur. Wash clothing before reuse.

**In Case of Eye Contact:** Hold eyelids apart and immediately flush eye(s) with copious amounts of water for at least 15 minutes. Have eyes examined and tested by medical personnel.

**If Swallowed:** Rinse out the mouth with water provided person is conscious. Do not give anything by mouth. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel.

**4.2 Important Symptoms and Effects:** Lung, skin and eye irritant. Prolonged exposure is not known to aggravate prior medical conditions

## Article 5 – Fire Fighting Measures

### 5.1 Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special Hazards:** No data available

### 5.3 Precautions for Fire Fighters

Wear suitable protection to prevent contact and respirator for fumes, and full protective gear to prevent contact with skin and eyes.

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## Article 6 – Accidental Release Measures

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### 6.1 Personal Precautions

Relocate personnel to a safe area and ensure ventilation is in working order. Wear protective equipment. Avoid dust formation and inhalation of fumes. As conditions warrant, wear an approved self-contained breathing apparatus, or respirator, and appropriate personal protection (rubber boots, safety goggles, and heavy rubber gloves).

### 6.2 Environmental Precautions

Do not let product enter drains, if safe to do so.

### 6.3 Methods for Containment and Clean-up

Contain spill and collect, as appropriate. Sweep up material without generating dust clouds and place in a sealed container for disposal. Clean surface where spill occurred.

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## Article 7 – Handling and Storage

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### 7.1 Handling Precautions

Use in a well ventilated area. Avoid formation of dust or aerosols. Keep away from sources of ignition. Wear suitable protective clothing. Avoid inhalation, and skin or eye contact.

### 7.2 Safe Storage Measures

Keep product in a sealed contained located in dry well ventilated area. Store in accordance with information listed on the product insert.

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## Article 8 – Exposure Controls/Personal Protection

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### 8.1 Control Parameters

Contains no substances with occupational exposure limit values.

### 8.2 Specific Engineering Controls

Keep airborne levels low by using a fumehood or local exhaust.

### 8.3 Personal Protection

**Eye/Face Protection:** Use safety glasses.

**Skin Protection:** Use chemical resistant gloves. Remove and dispose of gloves properly after use. Wash hands thoroughly after use.

**Body Protection:** Wear a lab coat.

**Respiratory Protection:** If risk is present wear a dust respirator.

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## Article 9 – Physical and Chemical Properties

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**Appearance:** White powder

**Odour:** data not available

**Odour Threshold:** data not available

**pH:** data not available

**Melting/Freezing Pt:** data not available

**Boiling Pt:** data not available

**Flash Pt:** data not available

**Explosive Properties:** data not available

**Solubility notes:** May be dissolved in DMSO (50 mg/ml); water (50 mg/ml warm)

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## Article 10 – Stability and Reactivity

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**10.1 Stability:** Stable under recommended transport or storage conditions

**10.2 Conditions to Avoid:** No data available.

**10.3 Incompatibility – Materials to Avoid:** No data available.

**10.4 Hazardous Decomposition Products:** No data available.

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## Article 11– Toxicological Information

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**11.1 Toxicological Effects:** The toxicological effects of this product have not been thoroughly studied.

**Acute Toxicity:** Oral LD50 (rat): >5 mg/kg; Intraperitoneal LD50 (rat): 515 mg/kg; Oral LD50 (mouse): >5mg/kg; Skin LD50 (rabbit): >2g/kg; Subcutaneous LD50 (rat): 487 mg/kg; Intraperitoneal LD50 (mouse): 1024 mg/kg; Subcutaneous LD50 (mouse): 678 mg/kg

**Chronic Toxicity:** Investigated as a drug and reproductive effector.

**Effects:** Only select Registry of Toxic Effects of Chemical Substances (RTECS) data is presented here. See actual entry in RTECS for complete information; RTECS Number: ES5055500

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## Article 12 – Ecological Information

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### 12.1 Toxicity

Avoid release into the environment.

### 12.2 Degradability

Data not available

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## Article 13 – Disposal Considerations

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### 13.1 Waste Treatment

Product and Contaminated Packaging: Dispose according to national legislation. Contact a licensed chemical disposal company.

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## Article 14 – Transport Information

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### 14.1 DOT

Not dangerous goods

### 14.2 IMDG

Not dangerous goods

### 14.2 IATA

Not dangerous goods

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## Article 15 – Regulatory Information

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This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

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## Article 16 – Other Information

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The above information is believed to be correct but does not purport to be all-inclusive and shall be used only as a guide. SignalChem shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalog for additional terms and conditions of sale.

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