# Bucladesine . sodium

## Cell-permeable cAMP analog and PDE inhibitor

Bucladesine . sodium, is a cell-permeable cyclic AMP (cAMP) analog that mimics the action of endogenous cAMP. It activates protein kinase A (PKA) and inhibits phosphodiesterases (PDEs), leading to elevated intracellular cAMP levels. This compound is widely used in research to study cAMP-mediated signaling pathways, inflammation, and wound healing.

Key features and applications include:

- **Selective Inhibition:** Targets ALK5/4/7 with high potency, effectively blocking Smad2/3 phosphorylation.
- **cAMP Mimetic:** Activates cAMP-dependent protein kinase (PKA) pathways.
- **Phosphodiesterase Inhibitor:** Enhances intracellular cAMP levels by resisting enzymatic breakdown.
- **Cell-Permeable:** Easily crosses cell membranes to exert intracellular effects.

Research Applications:

- **Neuroscience:** Investigates memory, learning, and synaptic plasticity.
- **Cancer Biology:** Explores cAMP's role in cell proliferation and apoptosis.
- **Dermatology:** Used in models of acute skin inflammation.
- **Cell Signaling:** Studies second messenger systems and PKA activation.

Relevant disease states include:

- **Inflammatory Skin Conditions:** Demonstrates efficacy in reducing acute skin inflammation.
- **Cognitive Disorders:** Enhances spatial memory in preclinical models, supporting its use in neurodegenerative disease research.

- **Wound Healing Impairments:** Used to study and promote healing in damaged or diseased skin.
- **Pain and Sensory Disorders:** Investigated for its role in modulating pain perception via cAMP signaling.

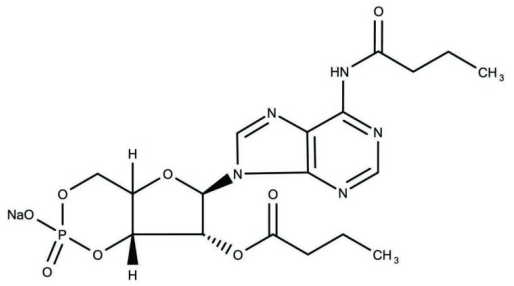
## Ordering Information

Order Online »

| | |
|---|---|
| **ENZ-CHM363-0100** | 100mg |

## Manuals, SDS & CofA

View Online »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## Handling & Storage

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|---|---|
| **Use/Stability** | As indicated on product label or CoA when stored as recommended. |
| **Short Term Storage** | -20°C |
| **Long Term Storage** | -20°C |
| **Shipping** | Ambient Temperature |

## Regulatory Status

RUO - Research Use Only

## Product Details

| | |
|---|---|
| **Alternative Name** | Dibutyryl cAMP . sodium salt, DBcAMP . sodium salt |
| **Appearance** | White solid. |
| **CAS** | 16980-89-5 |
| **Couple Target** | PDE, PKA |
| **Couple Type** | Activator, Inhibitor |
| **Formula** | $C_{18}H_{23}N_5O_8P$ . Na |
| **Identity** | Determined by NMR. |
| **MW** | 491.37 |
| **Purity** | ≥98% (HPLC) |
| **Solubility** | Soluble in DMSO (up to 50 mg/mL) or in water (up to 50 mg/mL). |

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