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.

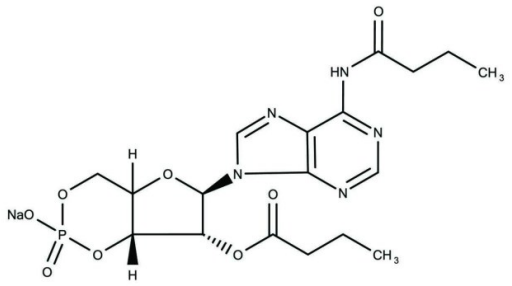
Ordering Information

Order Online »

ENZ-CHM363-0100	100mg

Manuals, SDS & CofA

View Online »


O
HN
CH3
N
N
N
N
H
O
O
NaO
P
O
O
O
H
O
CH3

Handling & Storage

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).

Last modified: July 28, 2025

ENZO LIFE SCIENCES, INC.
Phone: 800.942.0430
info-usa@enzolifesciences.com

European Sales Office
ENZO LIFE SCIENCES (ELS) AG
Phone: +41 61 926 8989
info-eu@enzolifesciences.com

Belgium, The Netherlands & Luxembourg
Phone: +32 3 466 0420
info-be@enzolifesciences.com

France
Phone: +33 472 440 655
info-fr@enzolifesciences.com

Germany
Phone: +49 7621 5500 526
info-de@enzolifesciences.com

UK & Ireland
Phone (UK customers): 0845 601 1488
Phone: +44 1392 825900
info-uk@enzolifesciences.com

For local distributors and detailed product information visit us online: enzo.com All product names, logos, and brands are the property of their respective owners.