Product Information

N6,2′-O-Dibutyryladenosine 3′,5′-cyclic monophosphate sodium salt

≥96% (HPLC), powder

D0627

Product Description

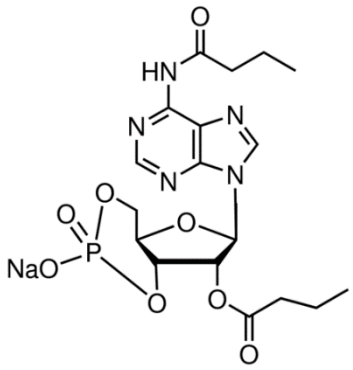
CAS Registry Number: 16980-89-5

Molecular Formula: $C_{18}H_{23}N_5O_8PNa$

Formula Weight: 491.37 (anhydrous)

Synonyms: Dibutyryl cAMP sodium salt, Bucladesine sodium salt, Dibutyryl cyclic-AMP sodium salt, Bucladesine, Dibutyryl cAMP

Structure:



Dibutyryl cAMP is an analog of cAMP (cyclic AMP; adenosine 3′,5′-cyclic monophosphate) that mimics the action of endogenous cAMP.[1,2] Compared to cAMP, the lipophilic nature of dibutyryl cAMP gives it greater cell permeability, and greater resistance to hydrolysis by cAMP phosphodiesterases.[3,4] Known to activate cAMP-dependent protein kinases and to inhibit phosphodiesterases, dibutyryl cAMP is used to probe signal transduction pathways.[5] This product is synthetically prepared and chromatographically purified.[1]

Dibutyryl cAMP is widely used in cell culture,[6-9] such as for mediation of cell differentiation. Several publications[6,7,10-20] and dissertations[8,9,21-26] have cited use of product D0627 in their research protocols.

Absorbance: 273 nm in 0.1 M phosphate buffer (pH 7.0)

E_{mM}^{273}: 16.6 (0.1 M Phosphate, pH 7.0)

A_{250}/A_{260}: 0.75

A_{280}/A_{260}: 1.15

Preparation Instructions

This product is soluble in water at 100 mg/mL. With reconstituted solutions, because the 2′-O-butyryl group hydrolyzes at pH ≥ 8.5, pH ≥ 8.5 solutions should be avoided.[27] While we have not tested solution stability on this reagent, several publications have indicated storage of stock solutions of dibutyryl cAMP at −20 °C.[28,29]

Storage/Stability

Dibutyryl cAMP, as supplied, is sensitive to light and to moisture. It is recommended to store this product at −20 °C.

Precautions and Disclaimer

For R&D use only. Not for drug, household, or other uses. Please consult the Safety Data Sheet for information regarding hazards and safe handling practices.

References

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