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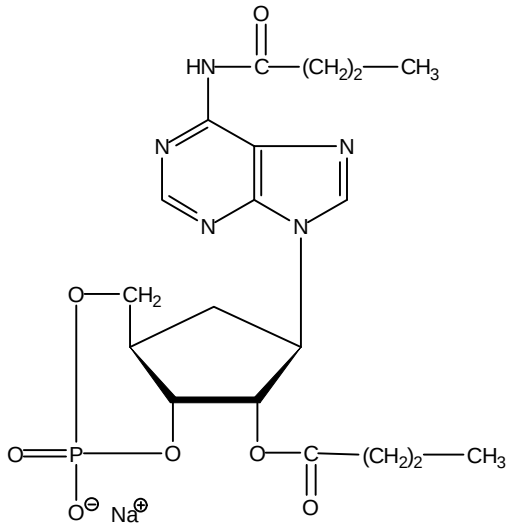
N^6,2'-O-Dibutyryladenosine 3':5'-Cyclic Monophosphate Sodium
Sigma Prod. No. D0260



CAS NUMBER: 16980-89-5
SYNONYMS: Bucladesine, Dibutyryl cAMP

PHYSICAL PROPERTIES:
Appearance: white to light yellow powder
$E_{mM}(273)$ = 16.6 (0.1 M Phosphate, pH 7.0)
A_{250}/A_{260} = 0.75
A_{280}/A_{260} = 1.15
Formula: $C_{18}H_{23}N_5O_8PNa$
Formula weight: 491.4 (free acid)
(Actual MW will vary with water content)

PHYSICAL DESCRIPTION:

Dibutyryl cAMP, an analog of cAMP, is synthetically prepared and chromatographically purified.[1]

STABILITY / STORAGE AS SUPPLIED:

Dibutyryl cAMP is sensitive to light and moisture. This product should be stored below 0°C and in the dark. If stored as recommended, it should have a shelf-life of up to 3 years.[2]

SOLUBILITY / SOLUTION STABILITY:

Sigma routinely tests the solubility of this product in water. At 100 mg/mL a clear, colorless solution is obtained.

The solution should be stored at -20° C, protected from light and will be stable for at least 3-6 months. At pH 8.5, Dibutyryl cAMP will hydrolyze to the N^6-Monobutyryl derivative.[2]

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APPLICATIONS:

The dibutyryl derivative of cAMP mimics the action of endogenous cAMP.[3] Because of the lipophilic nature of dibutyryl cAMP versus cAMP, it is preferentially used with intact cells for its greater permeability and greater resistance to hydrolysis by cAMP phosphodiesterases.[4,5]

REFERENCES:

1. *Methods in Enzymology*, 38, 399-409 (1974).
2. *Data for Biochemical Research*, 3rd. ed., 78-79 (1986).
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4. Henion, W.F., Sutherland, E.W. and Posternak, T.H., *Biochim. Biophys. Acta*, 148, 106-113 (1967).
5. Swislocki, N.I., *Analytical Biochem.*, 38, 260-269 (1970).