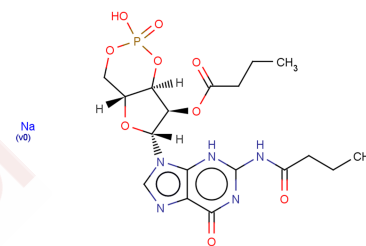


Dibutyryl-cGMP sodium

Chemical Properties

CAS No. :	51116-00-8
Formula:	C ₁₈ H ₂₄ N ₅ NaO ₉ P
Molecular Weight:	508.38
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Dibutyryl-cGMP sodium (Bt2cGMP sodium) is a cell-permeable cGMP analog that preferentially activates cGMP-dependent protein kinase (PKG). It inhibits [3H]-arachidonic acid release in human platelets stimulated by gamma thrombin and can induce peripheral analgesia by activating ATP-sensitive K ⁺ channels.
Targets(IC50)	Others,Potassium Channel
In vitro	Dibutyryl-cGMP can induce the process of prolongation and branching of astrocytes, which is caused by the rapid, reversible and concentration-dependent redistribution of glial fibrillary acidic protein (GFAP) and actin filaments, while the protein level No significant changes. When the cells were incubated with succinyl-cGMP (100 μM), the formation of stress fibers was prevented, and the cells obtained a star-like morphology in cerebellar astrocytes. In cells treated with dibutyryl-cGMP (100 μM, 2 h), the particle fraction contained almost no RhoA protein. Dibutyryl-cGMP prevents RhoA-membrane binding. Using the scratch model, the size of the wound in cells treated with succinyl-cGMP after the wound was significantly reduced, indicating that dbcGMP accelerated the wound closure.
In vivo	Dibutyryl-cGMP (50-200 μg/paw; subcutaneous injection; male Wistar rats) treatment antagonizes the hyperalgesic effect of PGE ₂ in a dose-dependent manner. The maximum analgesic effect of DbcGMP was 1 h after the administration and continued for more than 2 h.

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.967 mL	9.8352 mL	19.6703 mL
5 mM	0.3934 mL	1.967 mL	3.9341 mL
10 mM	0.1967 mL	0.9835 mL	1.967 mL
50 mM	0.0393 mL	0.1967 mL	0.3934 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

- Borán MS, et al. The cyclic GMP-protein kinase G pathway regulates cytoskeleton dynamics and motility in astrocytes. *J Neurochem.* 2007 Jul;102(1):216-30.
- Sane DC, et al. Cyclic GMP analogs inhibit gamma thrombin-induced arachidonic acid release in human platelets. *Biochem Biophys Res Commun.* 1989 Dec 15;165(2):708-14.
- Soares AC, et al. Dibutyl-cyclic GMP induces peripheral antinociception via activation of ATP-sensitive K(+) channels in the rat PGE2-induced hyperalgesic paw. *Br J Pharmacol.* 2001 Sep;134(1):127-31.

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