



# Dibutyryl cAMP Data Sheet

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<b>Catalog Number:</b>	MC11030	<b>Product Type:</b>	Small Molecule
<b>Bio-Activity:</b>	PKA activator	<b>CAS #:</b>	16980-89-5
<b>Research Categories:</b>	Cell death, stem cells, neuroscience, neurodegeneration	<b>Chemical Name:</b>	N6,O2'-Dibutyryl adenosine 3',5'-cyclic monophosphate sodium salt
<b>Solubility:</b>	Soluble in DMSO (50 mg/ml); water (50 mg/ml)	<b>Molecular Formula:</b>	C18H23N5O8P · Na
<b>Purity:</b>	> 98%	<b>Molecular Weight:</b>	491.4
<b>Format:</b>	Powder	<b>Ship Temp:</b>	Refrigerated (Polar Packs)
<b>Storage:</b>	-20°C		

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## Application Notes

### Description/Data:

Cell-permeable cAMP analog which mimics the effect of endogenous cAMP when applied to cells [1]. Activates PKA [2,3]. Induces morphological differentiation of astrocytes [4]. Promotes differentiation of dopaminergic neurons from hPSCs (in cocktails with other agents) [5].

### References:

- 1) Bartsch et al. (2003), Bioactivatable, membrane-permeant analogs of cyclic nucleotides as biological tools for growth control of C6 glioma cells; *Biol. Chem.*, 384 1321
- 2) Carranza et al. (1998), Protein kinase A induces recruitment of active Na<sup>+</sup>,K<sup>+</sup>-ATPase units to the plasma membrane of rat proximal convoluted tubule cells; *J. Physiol.*, 515 511
- 3) Hei et al. (1991), Lack of correlation between activation of cyclic AMP-dependent protein kinase and inhibition of contraction of rat vas deferens by cyclic AMP analogs; *Mol. Pharmacol.*, 39 233
- 4) Imamura et al. (1998), Differential expression of dystrophin isoforms and utrophin during dibutyryl-cAMP-induced morphological differentiation of rat brain astrocytes; *Proc. Natl. Acad. Sci. USA*, 95 6139
- 5) Xia et al. (2016), Transcriptional comparison of human induced and primary midbrain dopaminergic neurons; *Sci. Rep.*, 6 20270

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