NEUROMICS

Dibutyryl cAMP Data Sheet

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

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+,K+-ATPase units to the plasma membrane of rat proximal convoluted tubule cells; J. Physiol., 15 511

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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