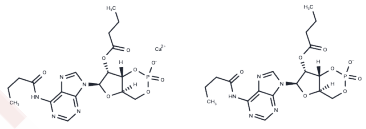
Data Sheet (Cat.No.T63257)

TargetMol

Bucladesine calcium

Chemical Properties



CAS No. : 938448-87-4

Formula: C36H46CaN10O16P2

Molecular Weight: 976.84

Storage: Keep away from moisture
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	Bucladesine calcium (Dibutyryl cAMP calcium salt) is a cell-permeable cAMP analog and selective PKA activator that increases intracellular cAMP levels. Bucladesine calcium also functions as a phosphodiesterase (PDE) inhibitor with anti-inflammatory activity.
Targets(IC50)	cAMP,PDE,PKA
In vivo	Compared to controls, Bucladesine calcium (bilateral infusion; 10/100 mM) improved spatial memory in male rats. Infusion of 1 mM and 5 mM concentrations within minutes after 0.5 mg nicotine infusion enhanced spatial memory retention in male rats [1]. Combined administration of Bucladesine calcium (10 mM/side) with nicotine (0.5 mM/side) resulted in significantly increased ChAT and VAChT immunoreactivity in the CA1 region and reduced escape latency and travel distance in rats [2]. Bucladesine calcium (in a 1.5% emulsion; single or multiple doses) significantly reduced inflammatory edema in an arachidonic acid-induced mouse ear edema model [4].

Solubility Information

Solubility	H2O: 80.00 mg/mL (81.90 mM),Sonication is recommended. DMSO: 80.00 mg/mL (81.90 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.0237 mL	5.1185 mL	10.2371 mL
5 mM	0.2047 mL	1.0237 mL	2.0474 mL
10 mM	0.1024 mL	0.5119 mL	1.0237 mL
50 mM	0.0205 mL	0.1024 mL	0.2047 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

Sharifzadeh, M., et al., Post-training intrahippocampal infusion of nicotine-bucladesine combination causes a synergistic enhancement effect on spatial memory retention in rats. Eur J Pharmacol, 2007. 562(3): p. 212-20.
Mafune, E., M. Takahashi, and N. Takasugi, Effect of vehicles on percutaneous absorption of bucladesine (dibutyryl cyclic AMP) in normal and damaged rat skin. Biol Pharm Bull, 1995. 18(11): p. 1539-43.
Rundfeldt, C., et al., The stable cyclic adenosine monophosphate analogue, dibutyryl cyclo-adenosine monophosphate (bucladesine), is active in a model of acute skin inflammation. Arch Dermatol Res, 2012.
Salehi F, et al. Effect of bucladesine, pentoxifylline, and H-89 as cyclic adenosine monophosphate analog, phosphodiesterase, and protein kinase A inhibitor on acute pain. Fundam Clin Pharmacol. 2017 Aug;31(4):411-419.
Shimojo M, et al. The cholinergic gene locus is coordinately regulated by protein kinase A II in PC12 cells. J Neurochem. 1998 Sep;71(3):1118-26.