

Product Data Sheet

Product Name: 2',5'-dideoxy Adenosine

Cat. No.: GC17544

Chemical Properties

Cas. No. 6698-26-6

Chemical Name 2',5'-dideoxy-adenosine

SMILES C[C@@H]1[C@@H](O)C[C@H](N2C=NC3=C2N=CN=C3N)O1

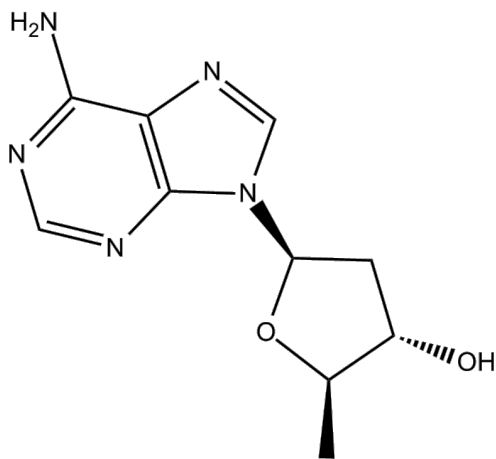
Formula $C_{10}H_{13}N_5O_2$ M.Wt 235.2

Solubility $\leq 20\text{mg/ml}$ in DMSO; 5mg/ml in dimethyl formamide Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37°C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice All other available size: ship with RT, or blue ice upon request.

Structure



Caution: Product has not been fully validated for medical applications. For research use only.

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Background

2',5'-dideoxy Adenosine, a nucleoside analog, is one of the first identified cell-permeable, P-site inhibitors of adenylate cyclase [1].

Adenylyl cyclase is an enzyme with key regulatory roles in almost all cells. Adenylyl cyclases have been involved in catalyzing the conversion of ATP to cAMP) and pyrophosphate [2]. 2',5'-dideoxy Adenosine inhibits forskolin-induced activation of a cAMP-dependent reporter gene in HEK293 cells with an IC₅₀ value of 33 μ M.

In vitro: In HEK293 cells expressing a cAMP response element (CRE) reporter gene, 2',5'-dideoxy Adenosine (ddAd) effectively and potently inhibited the activity of adenylate cyclase (AC). The ddAd effectively inhibited the effect of forskolin, an AC activator, with IC₅₀ value of 33 μ M [1]. Pretreatment with graded concentrations of ddAd effectively inhibited PACAP-induced reporter gene activation with IC₅₀ value of $\sim$ 35 μ M [1]. The ddAd inhibited forskolin-induced Elk-1 transactivation with an IC₅₀ of 10 μ M. The ddAd at concentrations greater than 500 mM failed to completely inhibit PACAP-induced cAMP elevation[1].

References:

[1] Emery A C, Eiden M V, Eiden L E. A new site and mechanism of action for the widely used adenylate cyclase inhibitor SQ22, 536[J]. Molecular pharmacology, 2013, 83(1): 95-105.

[2] Gilman A G. G proteins and dual control of adenylate cyclase[J]. Cell, 1984, 36(3): 577-579.

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