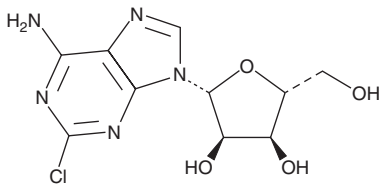
PRODUCT INFORMATION

2-Chloroadenosine

Item No. 15612

CAS Registry No.:	146-77-0
Formal Name:	2-chloro-adenosine
Synonyms:	Antibiotic AT-265B, CADO, NSC 36896
MF:	$C_{10}H_{12}ClN_5O_4$
FW:	301.7
Purity:	≥98%
UV/Vis.:	λ_{max}: 210, 264 nm
Supplied as:	A crystalline solid
Storage:	-20°C
Stability:	≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

2-Chloroadenosine is supplied as a crystalline solid. A stock solution may be made by dissolving the 2-chloroadenosine in the solvent of choice, which should be purged with an inert gas. 2-Chloroadenosine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of 2-chloroadenosine in these solvents is approximately 0.25, 2.5, and 2 mg/ml, respectively.

2-Chloroadenosine is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, 2-chloroadenosine should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. 2-Chloroadenosine has a solubility of approximately 0.1 mg/ml in a 1:10 solution of DMSO:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

2-Chloroadenosine (CADO) is a metabolically stable analog of adenosine that binds to adenosine A_1, A_{2A}, and A_3 receptors with K_i values of 300, 80, and 1,900 nM, respectively.[1] CADO has been used to activate adenosine receptors in the thalamus, generating anticonvulsive activity in a rat model of generalized seizures.[2] It has also been used to induce bronchoconstrictor effects in a guinea pig model of asthma and to study cardiovascular responses in normotensive and hypertensive rats.[1,3]

References

1. Mathôt, R.A.A., Soudijn, W., Breimer, D.D., *et al.* Pharmacokinetic-haemodynamic relationships of 2-chloroadenosine at adenosine A_1 and A_{2a} receptors *in vivo*. *Br. J. Pharmacol.* **118(2)**, 369-77 (1996).
2. Ates, N., Ilbay, G., and Sahin, D. Suppression of generalized seizures activity by intrathalamic 2-chloroadenosine application. *Exp. Biol. Med. (Maywood)* **230(7)**, 501-5 (2005).
3. Manzini, S. and Ballati, L. 2-Chloroadenosine induction of vagally-mediated and atropine-resistant bronchomotor responses in anaesthetized guinea-pigs. *Br. J. Pharmacol.* **100(2)**, 251-256 (1990).

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