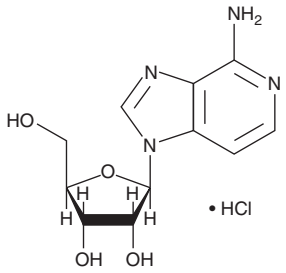
PRODUCT INFORMATION

3-Deazaadenosine (hydrochloride)

Item No. 30969

CAS Registry No.: 86583-19-9
Formal Name: 1-β-D-ribofuranosyl-1H-imidazo[4,5-c]pyridin-4-amine, monohydrochloride
Synonyms: c3Ado, deaza-Ado, 3-DZA
MF: $C_{11}H_{14}N_4O_4 \bullet HCl$
FW: 302.7
Purity: ≥98%
UV/Vis.: λ_{max}: 215, 263 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

3-Deazaadenosine (3-DZA) (hydrochloride) is supplied as a crystalline solid. A stock solution may be made by dissolving the 3-DZA (hydrochloride) in the solvent of choice, which should be purged with an inert gas. 3-DZA (hydrochloride) is soluble in the organic solvent DMSO at a concentration of approximately 30 mg/ml.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of 3-DZA (hydrochloride) can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of 3-DZA (hydrochloride) in PBS, pH 7.2, is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

3-DZA is an inhibitor of S-adenosylhomocysteine hydrolase (K_i = 3.9 µM).[1,2] It has anti-inflammatory properties, inhibiting leukocyte adhesion and chemotaxis, lymphocyte-mediated cytolysis, phagocytosis, degranulation, and NF-κB signaling.[3,4] 3-DZA also has antiviral and antibacterial activities.[1,5,6]

References

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2. Gordon, R.K., Ginalski, K., Rudnicki, W.R., *et al.* Anti-HIV-1 activity of 3-deaza-adenosine analogs: Inhibition of S-adenosylhomocysteine hydrolase and nucleotide congeners. *Eur. J. Biochem.* **270(17)**, 3507-17 (2003).
3. Jurgensen, C.H., Huber, B.E., Zimmerman, T.P., *et al.* 3-Deazaadenosine inhibits leukocyte adhesion and ICAM1 biosynthesis in tumor necrosis factor-stimulated human endothelial cells. *J. Immunol.* **144(2)**, 653-61 (1990).
4. Jeong, S.Y., Ahn, S.G., Lee, J.H., *et al.* 3-Deazaadenosine, a S-adenosylhomocysteine hydrolase inhibitor, has dual effects on NF-κB regulation. *J. Biol. Chem.* **274(27)**, 18981-18988 (1999).
5. Long, M.C., Allan, P.W., Luo, M.Z., *et al.* Evaluation of 3-deaza-adenosine analogues as ligands for adenosine kinase and inhibitors of Mycobacterium tuberculosis growth. *J. Antimicrob. Chemother.* **59(1)**, 118-121 (2007).
6. Huggins, J., Zhang, Z.X., and Bray, M. Antiretroviral drug therapy of filovirus infections: S-adenosylhomocysteine hydrolase inhibitors inhibit ebola virus in vitro and in a lethal mouse model. *J. Infect. Dis.* **179(Suppl. 1)**, S240-S247 (1999).

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