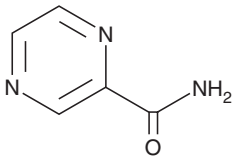
PRODUCT INFORMATION

Pyrazinamide

Item No. 23416

CAS Registry No.:	98-96-4
Formal Name:	2-pyrazinecarboxamide
Synonyms:	Aldinamide, MK 56, NSC 14911, α-Pyrazinamide, Pyrazinecarboxamide, Pyrazinoic Acid Amide
MF:	$C_5H_5N_3O$
FW:	123.1
Purity:	≥98%
UV/Vis.:	λ_{max}: 269 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

Pyrazinamide is supplied as a crystalline solid. A stock solution may be made by dissolving the pyrazinamide in the solvent of choice, which should be purged with an inert gas. Pyrazinamide is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide. The solubility of pyrazinamide in these solvents is approximately 0.2, 30, and 25 mg/ml, respectively.

Pyrazinamide is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, pyrazinamide should first be dissolved in DMSO and then diluted with the aqueous buffer of choice. Pyrazinamide 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

Pyrazinamide is an antimycobacterial compound that inhibits the growth of the human *M. tuberculosis* H37Rv strain (MIC = 150 µg/ml).[1] It increases survival in *M. tuberculosis* H37Rv-infected mice when administered orally (0.1% w/w in the diet) or subcutaneously (2.5 mg single injection) on the day of infection.[2] Pyrazinamide also inhibits the growth of *M. lepraemurium* in infected mice.[3] Formulations containing pyrazinamide have been used as first-line treatments of *M. tuberculosis*.[4]

References

1. Solotorovsky, M., Gregory, F.J., Ironson, E.J., *et al.* Pyrazinoic acid amide; An agent active against experimental murine tuberculosis. *Proc. Soc. Exp. Biol. Med.* **79(4)**, 563-565 (1952).
2. Malone, L., Schurr, A., Lindh, H., *et al.* The effect of pyrazinamide (aldinamide) on experimental tuberculosis in mice. *Am. Rev. Tuberc.* **65(5)**, 511-518 (1952).
3. Chang, Y.T. Chemotherapy of murine leprosy. III. The effects of nicotinamide and pyrazinamide (aldinamide) on mouse leprosy. *Int. J. Lepr.* **22(3)**, 331-46 (1954).
4. Nguyen, Q.H., Contamin, L., Tran, T.T.H., *et al.* Molecular analysis of pyrazinamide resistance in *Mycobacterium tuberculosis* in Vietnam highlights the high rate of pyrazinamide resistance-associated mutations in clinical isolates. *Emerg. Microbes Infect.* **6(10)**, e86 (2017).

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