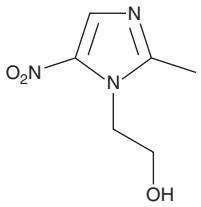
PRODUCT INFORMATION

Metronidazole

Item No. 9002409

CAS Registry No.: 443-48-1
Formal Name: 2-methyl-5-nitro-1H-imidazole-1-ethanol
Synonyms: MNZ, NSC 50364, NSC 69587
MF: $C_6H_9N_3O_3$
FW: 171.2
Purity: ≥98%
UV/Vis.: λ_{max}: 229, 311 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

Metronidazole is supplied as a crystalline solid. A stock solution may be made by dissolving the metronidazole in the solvent of choice, which should be purged with an inert gas. Metronidazole is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of metronidazole in ethanol is approximately 5 mg/ml and approximately 15 mg/ml in DMSO and DMF.

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 metronidazole can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of metronidazole in PBS (pH 7.2) is approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Metronidazole is an antibiotic that has activity against anaerobic bacteria and protozoa including *T. vaginalis*, *E. histolytica*, *G. lamblia*, *C. difficile*, *and H. pylori*.[1] It reduces the growth of *E. coli in vitro* (MIC = 128 mg/L under anaerobic conditions).[2] *In vivo*, metronidazole reduces viable counts of *B. fragilis* in a rabbit model of infection. Formulations containing metronidazole have been used in the treatment of various infections including *H. pylori* and *C. difficile*.

References

1. Samuelson, J. Why metronidazole is active against both bacteria and parasites. *Antimicrob. Agents Chemother.* **43(7)**, 1533-1541 (1999).
2. Rylander, M., Holm, S.E., Brorson, J.-E., *et al.* Activity of metronidazole on *Bacteroides fragilis* and/or *Escherichia coli in vitro* and *in vivo*. *J. Antimicrob. Chemother.* **7(3)**, 257-267 (1981).

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