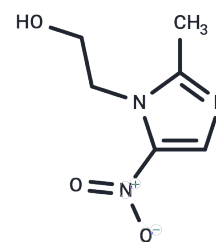


Metronidazole

Chemical Properties

CAS No. :	443-48-1
Formula:	C ₆ H ₉ N ₃ O ₃
Molecular Weight:	171.15
Appearance:	no data available
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year



Biological Description

Description	Metronidazole (Metronidazol) is a synthetic nitroimidazole derivative with antiprotozoal and antibacterial activities.
Targets(IC50)	Apoptosis,NADPH,Hydrogenase,Antibacterial,Antibiotic,Parasite,Antifection
In vitro	Metronidazole is relatively inactive until it is metabolized within host or microbial cells. Metronidazole is activated when it receives an electron from ferredoxin or fla vodoxin that is reduced by POR in anaerobic or microaerophilic bacteria or luminal parasites. Metronidazole damages cells by forming protein and DNA adducts. [1] Metronidazole has activity against protozoans like Entamoeba histolytica, Giardia lamblia and Trichomonas vaginalis, for which the drug is first approved as an effective treatment. The activity of metronidazole against anaerobic bowel flora has been used for prophylaxis and treatment of patients with Crohn's disease who might develop an infectious complication. Metronidazole has played an important role in anaerobic-related infections. Metronidazole has notable effectiveness in treating anaerobic brain abscesses. [2] Metronidazole resistance tends to result from de novo mutation in the resident rdxA gene, rather than from lateral transfer of mutant rdxA (or other) genes from unrelated but Mtzr strains. Metronidazole partially inhibits growth stimulate forward mutation to rifampin resistance in rdxA(+) (Metronidazole(s)) and also in rdxA (Metronidazole(r)) H. pylori strains, and that expression of rdxA in Escherichia coli results in equivalent Mtz-induced mutation. [3] Metronidazole leads to apoptosis-like features in growing cultures of axenic B. hominis, including key morphological and biochemical features of programmed cell death (PCD), viz. nuclear condensation and nicked DNA in nucleus, reduced cytoplasmic volume, externalization of phosphatidylserine and maintenance of plasma membrane integrity with increasing permeability. [4]

Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 60 mg/mL (350.55 mM), < 1 mg/ml refers to the product slightly soluble or insoluble)
------------	---

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.8428 mL	29.2141 mL	58.4283 mL
5 mM	1.1686 mL	5.8428 mL	11.6857 mL
10 mM	0.5843 mL	2.9214 mL	5.8428 mL
50 mM	0.1169 mL	0.5843 mL	1.1686 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Reference

Shan T, Huang Y, Zhao Z, et al. Ketogenic diet restrains herpes simplex encephalitis via gut microbes. *Microbes and Infection*. 2022: 105061.

Inhibitor · Natural Compounds · Compound Libraries · Recombinant Proteins

This product is for Research Use Only. Not for Human or Veterinary or Therapeutic Use

Tel: 781-999-4286 E_mail: info@targetmol.com Address: 36 Washington Street, Wellesley Hills, MA 02481