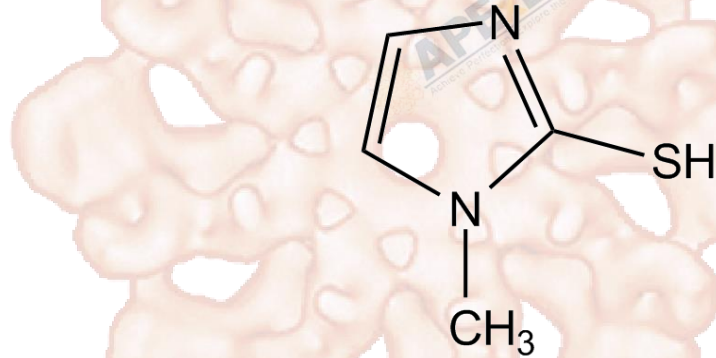


Product Data Sheet

Methimazole

Cat. No.:	A8472
CAS No.:	60-56-0
Formula:	C ₄ H ₆ N ₂ S
M.Wt:	114.17
Synonyms:	
Target:	Others
Pathway:	Others
Storage:	Store at -20°C



Solvent & Solubility

≥49.1 mg/mL in H₂O; ≥5.8 mg/mL in DMSO; ≥52.4 mg/mL in EtOH

In Vitro

Preparing Stock Solutions	Solvent	Mass		
		1mg	5mg	10mg
	Concentration			
	1 mM	8.7589 mL	43.7943 mL	87.5887 mL
	5 mM	1.7518 mL	8.7589 mL	17.5177 mL
	10 mM	0.8759 mL	4.3794 mL	8.7589 mL

Please refer to the solubility information to select the appropriate solvent.

Biological Activity

Shortsummary

ICAM-1 inhibitor

IC₅₀ & Target

In Vitro

Cell Viability Assay

Cell Line: FRTL5 thyroid cell

Preparation method: The solubility of this compound in DMSO is >5.8 mg/mL. General tips for obtaining a higher concentration: Please warm the tube at 37 °C for 10 minutes and/or shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Reacting conditions: 96 hrs

	Applications:	Methimazole inhibited FRTL5 thyroid cell proliferation by inducing S-phase arrest of the cell cycle. Methimazole induced cell arrest in S phase. Methimazole induced a fall in the proportion of cells in both G0/G1 and G2/M phases. Treatment with methimazole caused an increase in the percentages and absolute counts of Treg lymphocytes. Treatment with methimazole significantly decreased the percentages and absolute counts of Th17 lymphocytes.
In Vivo	Animal experiment	
	Animal models:	Male Sprague-Dawley rats
	Dosage form:	Intraperitoneal administration, 300 mg/kg
	Applications:	Methimazole (300 mg/kg) induced cell death predominantly in the mature ORNs and partially reduced olfactory sensitivity in the rats. Methimazole (20-40 mg/kg) given 30 min before the nephrotoxicant reduced nephrotoxicity induced by cephaloridine, DCVC or 2-BHQ. Methimazole reduced cisplatin-induced nephrotoxicity when given 30 min before and up to 4 hr after cisplatin. Methimazole (40 mg/kg) 30 min before cephaloridine (2 g/kg) significantly protected rats against cephaloridine-induced oxidation of renal nonprotein thiols.
	Other notes:	Please test the solubility of all compounds indoor, and the actual solubility may slightly differ with the theoretical value. This is caused by an experimental system error and it is normal.

Product Citations

See more customer validations on www.apexbt.com.

References

- [1]. Smerdely P, Pitsiavas V, Boyages S C. Methimazole inhibits FRTL5 thyroid cell proliferation by inducing S-phase arrest of the cell cycle[J]. Endocrinology, 1993, 133(5): 2403-2406.
- [2]. Klatka M, Grywalska E, Partyka M, et al. Th17 and Treg cells in adolescents with Graves' disease. Impact of treatment with methimazole on these cell subsets[J]. Autoimmunity, 2014, 47(3): 201-211.
- [3]. Sakamoto T, Kondo K, Kashio A, et al. Methimazole - induced cell death in rat olfactory receptor neurons occurs via apoptosis triggered through mitochondrial cytochrome c - mediated caspase - 3 activation pathway[J]. Journal of neuroscience research, 2007, 85(3): 548-557.
- [4]. Sausen P J, Elfarra A A, Cooley A J. Methimazole protection of rats against chemically induced kidney damage in vivo[J]. Journal of Pharmacology and Experimental Therapeutics, 1992, 260(1): 393-401.

Caution

FOR RESEARCH PURPOSES ONLY.

NOT FOR HUMAN, VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

Specific storage and handling information for each product is indicated on the product datasheet. Most APExBIO products are stable under the recommended conditions. Products are sometimes shipped at a temperature that differs from the recommended storage temperature. Shortterm storage of many products are stable in the short-term at temperatures that differ from that required for long-term storage. We ensure that the product is shipped under conditions that will maintain the quality of the reagents. Upon receipt of the product, follow the storage recommendations on the product data sheet.

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