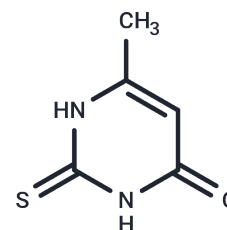


## Methylthiouracil

## Chemical Properties

CAS No. :	56-04-2
Formula:	C <sub>5</sub> H <sub>6</sub> N <sub>2</sub> O <sub>2</sub> S
Molecular Weight:	142.18
Storage:	Powder: -20°C for 3 years   In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



## Biological Description

Description	Methylthiouracil is a thiourea-class antithyroid agent that inhibits the synthesis of thyroid hormones and is commonly used to treat hyperthyroidism. Studies have shown that Methylthiouracil can also suppress the production of TNF- $\alpha$ and IL-6, as well as inhibit the activation of NF- $\kappa$ B and ERK1/2. It can be used to induce hyperlipidemia and neurological disorder models.
Targets(IC50)	ERK,Antiviral,NF- $\kappa$ B,Interleukin,TNF
In vitro	Methylthiouracil acts to decrease the formation of stored thyroid hormone, as thyroglobulin in the thyroid gland. Methylthiouracil is also used in combination with radioactive iodine.

## Solubility Information

Solubility	Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 27 mg/mL (189.9 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+40% PEG300+5% Tween 80+45% Saline: 2 mg/mL (14.07 mM),Sonication is recommended. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	7.0333 mL	35.1667 mL	70.3334 mL
5 mM	1.4067 mL	7.0333 mL	14.0667 mL
10 mM	0.7033 mL	3.5167 mL	7.0333 mL
50 mM	0.1407 mL	0.7033 mL	1.4067 mL

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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.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

#### Reference

Crooks J, et al. Br Med J, 1960, 1(5167), 151-154.

Doniach I, et al. Br J Cancer, 1953, 7(2), 181-202.

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