

Methylthiouracil

Catalog No: tcsc2723



Available Sizes

Size: 50mg

Size: 100mg



Specifications

CAS No:

56-04-2

Formula:

$C_5H_6N_2OS$

Pathway:

Immunology/Inflammation;Stem Cell/Wnt;MAPK/ERK Pathway;Apoptosis;NF-κB

Target:

Interleukin Related;ERK;ERK;TNF Receptor;NF-κB

Purity / Grade:

>98%

Solubility:

10 mM in DMSO

Alternative Names:

MTU

Observed Molecular Weight:

142.18

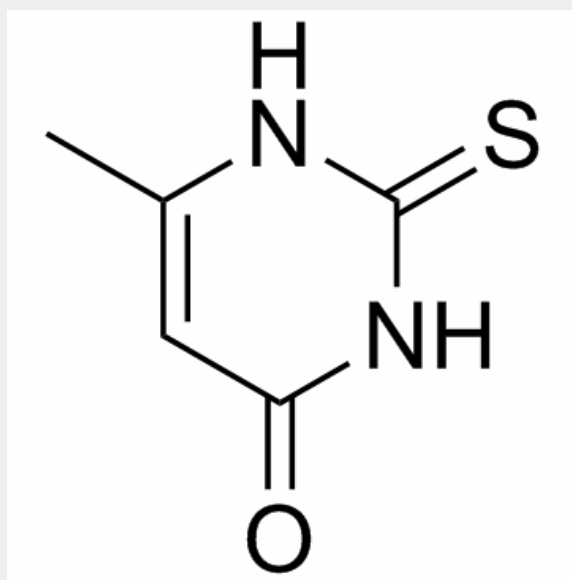
Product Description

Methylthiouracil is an antithyroid agent. Methylthiouracil suppresses the production **TNF-α** and **IL-6**, and the activation of **NF-κB** and **ERK1/2**.

IC50 & Target: TNF- α , IL-6, ERK1/2, NF- κ B^[1]

In Vitro: HUVECs are treated with various concentrations of MTU (0-20 μ M) for 6 h after the addition of LPS (100 ng/mL) for 4 h. MTU inhibits LPS-mediated hyperpermeability in endothelial cells, with the optimal effect occurring at a concentration above 5 μ M. The effects of MTU are examined on HUVEC actin cytoskeletal arrangement by immunofluorescence staining of HUVEC monolayers with F-actin labeled fluorescein phalloidin. Control HUVECs exhibit a random distribution of F-actin throughout the cells, with some localization of actin filament bundles at the cell boundaries. Barrier disruption by LPS (100 ng/mL) is manifested by the formation of paracellular gaps in HUVECs. In addition, post-treatment with MTU (10 or 20 μ M) results in inhibited formation of LPS-induced paracellular gaps with the formation of dense F-actin rings. To test the cytotoxicity of MTU, cellular viability assays are performed in HUVECs treated with MTU for 24 h. At concentrations up to 20 μ M, MTU does not affect cell viability^[1].

In Vivo: MTU treatment results in marked inhibition of the peritoneal leakage of dye induced by LPS. The average circulating blood volume for mice is 72 mL/kg. Because the average mouse weight in this study is 27 g, and the average blood volume is 2 mL, the injected MTU (142 or 284 μ g/kg) results in a maximum concentration of 10 or 20 μ M in the peripheral blood^[1].



All products are for RESEARCH USE ONLY. Not for diagnostic & therapeutic purposes!