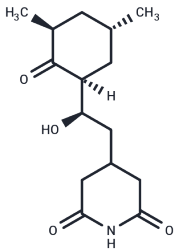
# Data Sheet (Cat.No.T1225)

TargetMol

## Cycloheximide

### Chemical Properties



CAS No. : 66-81-9

Formula: C15H23NO4

Molecular Weight: 281.35

Storage: Store at low temperature,Keep away from direct sunlight
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

### Biological Description

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|---|---|
| Description | Cycloheximide (Naramycin A) is a natural product . Cycloheximide's IC50 values for protein synthesis and RNA synthesis in vivo are 532.5 nM and 2880 nM, respectively. Cycloheximide inhibits ferroptosis and autophagy and is an antifungal antibiotic. |
| Targets(IC50) | Ferroptosis,Antibiotic,Autophagy,Antifungal,DNA/RNA Synthesis |
| In vitro | **METHODS**: Three different tumor cell lines, HeLa, MDA-MB231 and Jurkat T cells, were incubated with Cycloheximide (2.5 μM) for 24 hours. The inhibitory effects of the compounds on translation and transcription were detected by metabolic labeling.<br>**RESULTS**: The IC50 values of Cycloheximide for protein synthesis and RNA synthesis in vivo were 532.5 nM and 2880 nM, respectively. [1] |
| In vivo | **METHODS**: To investigate the effect of Cycloheximide on the latency of the memory test in mice, 30, 60 or 120 mg/kg of Cycloheximide was injected before training with 200 μA electric shock.<br>**RESULTS**: Cycloheximide has a significant effect on the latency of the memory test. In the control group, the delay time of the test was significantly higher than that of the training. The test of the lowest dose of Cycloheximide, namely 30 mg/kg, resulted in a significantly higher latency of the test than that of the control group. After receiving two higher doses of Cycloheximide, the performance of either mouse in the experiment was comparable to that of the control group, and the higher doses did not impair memory under these conditions, thus forming an inverted U-shaped dose-response curve. [2] |

### Solubility Information

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| Solubility | DMSO: 260 mg/mL (924.12 mM),Sonication is recommended.<br>H2O: 20 mg/mL (71.09 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |
| In vivo Formulation | 10% DMSO+40% PEG300+5% Tween 80+45% Saline: 5 mg/mL (17.77 mM),Sonication is recommended.<br>*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.* |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 3.5543 mL | 17.7715 mL | 35.5429 mL |
| 5 mM | 0.7109 mL | 3.5543 mL | 7.1086 mL |
| 10 mM | 0.3554 mL | 1.7771 mL | 3.5543 mL |
| 50 mM | 0.0711 mL | 0.3554 mL | 0.7109 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.

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

Schneider-Poetsch T, et al. Inhibition of eukaryotic translation elongation by cycloheximide and lactimidomycin. Nat Chem Biol. 2010 Mar;6(3):209-217.
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Zhu Y, Li Y, Liu H, et al.Differential expression of TOR complex 1 components in Colletotrichum camelliae isolates confers natural resistance to rapamycin.Pesticide Biochemistry and Physiology.2024: 106169.
Gold PE, et al. Cycloheximide impairs and enhances memory depending on dose and footshock intensity. Behav Brain Res. 2012 Aug 1;233(2):293-7.
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