# Data Sheet (Cat.No.T1155)

TargetMol

## Mebendazole

### Chemical Properties

CAS No. : 31431-39-7

Formula: C16H13N3O3

Molecular Weight: 295.29

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

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|---|---|
| Description | Mebendazole (Mebenvet) is a hedgehog inhibitor, used as an antihelminthic. |
| Targets(IC50) | Apoptosis,Microtubule Associated,Parasite |
| In vitro | mebendazole (MZ), a derivative of benzimidazole, induces a dose- and time-dependent apoptotic response in human lung cancer cell lines. MZ arrests cells at the G2-M phase before the onset of apoptosis. MZ treatment also results in mitochondrial cytochrome c release, followed by apoptotic cell death. Additionally, MZ appears to be a potent inhibitor of tumor cell growth with little toxicity to normal WI38 and human umbilical vein endothelial cells[2]. |
| In vivo | When administered p.o. to nu/nu mice, MZ strongly inhibits the growth of human tumor xenografts and significantly reduces the number and size of tumors in an experimental model of lung metastasis. MZ treatment significantly reduces vessel densities in mice compared with those in control mice[2]. |
| Cell Research | When grown to 40-50% confluence, the cells are exposed to MZ dissolved in DMSO. Cell growth is monitored by counting the viable cells using a hemacytometer.(Only for Reference) |

### Solubility Information

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|---|---|
| Solubility | Ethanol: < 1 mg/mL (insoluble or slightly soluble),<br>DMSO: 10 mg/mL (33.87 mM),Sonication is recommended.<br>(< 1 mg/ml refers to the product slightly soluble or insoluble) |

Preparing Stock Solutions

| | 1mg | 5mg | 10mg |
|---|---|---|---|
| 1 mM | 3.3865 mL | 16.9325 mL | 33.865 mL |
| 5 mM | 0.6773 mL | 3.3865 mL | 6.773 mL |
| 10 mM | 0.3387 mL | 1.6933 mL | 3.3865 mL |
| 50 mM | 0.0677 mL | 0.3387 mL | 0.6773 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

Liu C, et al. Parasitol Res. 2015, 114(6):2213-22.
Chen X, Xu Y, Wang X, et al. Mebendazole elicits potent antimyeloma activity by inhibiting the USP5/c-Maf axis. Acta Pharmacologica Sinica.
Yang W, Xu Y, Liu S, et al.Mebendazole induces ZBP-1 mediated PANoptosis of acute myeloid leukemia cells by targeting TUBA1A and exerts antileukemia effect.Journal of Advanced Research.2025
Mukhopadhyay T, et al. Clin Cancer Res. 2002, 8(9):2963-2969.
Chen X, Xu Y, Wang X, et al. Mebendazole elicits potent antimyeloma activity by inhibiting the USP5/c-Maf axis[J]. Acta pharmacologica Sinica. 2019: 1.