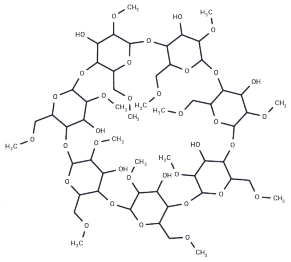
Data Sheet (Cat.No.T4072)

TargetMol

Methyl-β-cyclodextrin

Chemical Properties



CAS No. : 128446-36-6

Formula:

Molecular Weight:

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	Methyl-β-cyclodextrin (Methyl-beta-cyclodextrin) is a macrocyclic compound utilized as a solubilizer for hydrophobic substances in biological studies, and serves as a lipid raft inhibitor with cholesterol-lowering and potential antitumor activities.
Targets(IC50)	Others
In vitro	**METHODS**: Five primary exudative lymphoma (PEL) cell lines, BCBL-1, BC-1, BC-3, TY-1, and GTO, were treated with Methyl-β-cyclodextrin (0-10 mM) for 24 h, and cell viability was measured by MTT assay. **RESULTS**: Methyl-β-cyclodextrin dose-dependently inhibited the growth of PEL cells with IC50 between 3.33-4.23 mM. [1] **METHODS**: Chicken hepatocellular carcinoma cells, LMH, were treated with Methyl-β-cyclodextrin (10 mM) for 1 h, then cholesterol (50 μg/mL) was added at different time points before, during, and after infection with FAdV-4, and the expression levels of the target proteins were detected by Western Blot. **RESULTS**: When LMH cells were pretreated with increasing concentrations of Methyl-β-cyclodextrin prior to infection, penton protein levels decreased in a dose-dependent manner. [2]
In vivo	**METHODS**: To test the antitumor activity in vivo, Methyl-β-cyclodextrin (500 mg/kg) was intraperitoneally injected into NRJ mice bearing PEL tumor BCBL-1 once a day for twenty-one days. **RESULTS**: Methyl-β-cyclodextrin significantly inhibited the growth and invasion of PEL cells without significant adverse effects. [1] **METHODS**: To investigate the modulatory effects on collagen, Methyl-β-cyclodextrin (1.25-5.0 mg/mouse) was intradermally injected into the SKH1 mouse twice a week for two months. **RESULTS**: Methyl-β-cyclodextrin showed potent COL I up-regulatory activity resulting in increased skin thickness. [3]
Kinase Assay	PEL cells are incubated in triplicate in a 96-well microculture plate in the presence of different concentrations of methyl-β-cyclodextrin (0-10 mM) in a final volume of 0.1 mL for 24 h at 37°C. Subsequently, MTT (0.5 mg/mL final concentration) is added to each well. After 3 h of additional incubation, 100 μL of a 0.04 N HCl is added to dissolve the crystals. Absorption values at 570 nm are determined.

Cell Research	PEL cells are incubated in triplicate in a 96-well microculture plate in the presence of different concentrations of methyl-β-cyclodextrin (0-10 mM) in a final volume of 0.1 mL for 24 h at 37°C. Subsequently, MTT (0.5 mg/mL final concentration) is added to each well. After 3 h of additional incubation, 100 µL of a 0.04 N HCl is added to dissolve the crystals. Absorption values at 570 nm are determined[1].

Solubility Information

Solubility	DMSO: 100 mg/mL,Sonication is recommended. H2O: 100 mg/mL,Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Reference

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Zhang Y, Xue W, Zhang W, et al. Histone methyltransferase G9a protects against acute liver injury through GSTP1. Cell Death & Differentiation. 2020, 27(4): 1243-1258
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