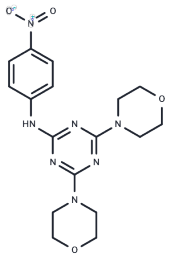
Data Sheet (Cat.No.T1908)

TargetMol

MHY1485

Chemical Properties



CAS No. : 326914-06-1

Formula: C17H21N7O4

Molecular Weight: 387.39

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	MHY1485 is an mTOR activator that is cell-permeable. MHY1485 inhibits autophagosome and lysosome fusion, leading to accumulation of LC3II proteins and increased autophagosomes, thereby inhibiting cellular autophagy.
Targets(IC50)	Autophagy,mTOR
In vitro	**METHODS**: MDA-MB-231, BT-20, MDA-MB-468 cells and T cells were co-cultured and treated with Atezolizumab (50-100 μg/mL) for 4-24 h. T cell-mediated cytotoxicity assay was performed. **RESULTS**: Atezolizumab significantly enhanced T cell-mediated cytotoxicity of MDA-MB-231 cells in a dose-dependent manner, with 100 μg/mL concentration of Atezolizumab showing significant efficacy at 4 and 24 h incubation. Similar results were obtained with BT-20. No Atezolizumab-induced T cell-mediated cytotoxicity was observed in PD-L1-MDA-MB-468 cells compared to MDA-MB-231 and BT-20 cells. [1] **METHODS**: MDA-MB-231 cells were treated with Atezolizumab (0.5 μg/mL) for 24 h. Surface expression of PD-L1 was detected by flow cytometry. **RESULTS**: Almost all MDA-MB-231 cells were positive for PD-L1, but detection of PD-L1 epitopes was blocked by the specific antibody Atezolizumab after 24 h treatment. [2]
In vivo	**METHODS**: To detect in vivo antitumor activity, Atezolizumab (10 mg/kg) and Bevacizumab (5 mg/kg) were intraperitoneally injected into BALB/C nude mice bearing A2780cis xenografts every two days for three weeks. **RESULTS**: In vivo treatment with Atezolizumab or Bevacizumab induced significant antitumor effects and significantly inhibited tumor growth. Dual blockade with Atezolizumab and Bevacizumab significantly inhibited tumor growth compared to each treatment. [3]
Kinase Assay	Ovaries from mice at day10 of age are treated with 10 μM MHY1485 for 3h and proteins are extracted using M-PER Mammalian Protein Extraction Reagent containing a protease inhibitor cocktail. Protein concentrations in supernatants are determined by the bicinchoninic acid method. Equal amounts of protein lysates are loaded on 4-12% NuPAGE Bis-Tris gels in MOPS buffer and transferred to 0.45 μM pore nitrocellulose membranes[2].
Cell Research	MHY1485 is dissolved in DMSO and then diluted with appropriate media[3]. MC3T3-E1 cells are maintained in Dulbecco's modified Eagle's medium (DMEM) supplemented with 10% fetal bovine serum (FBS), 100 U/mL penicillin and 100 mg/mL streptomycin at 37°C in a humidified atmosphere of 5% CO2. Having reached 70% confluence, the culture

Cell Research	medium is switched to commercial osteogenic differentiation medium. MC3T3-E1 cells are cultured in the osteogenic differentiation medium for 14 days, following by culture in DMEM supplemented with varying concentrations of liraglutide for a further 14 days. MC3T3-E1 cells treated with 4 nM liraglutide are cultured in the presence or absence of Compound C or MHY1485. MC3T3-E1 cells maintained in DMEM for 28 days in the absence of any treatment are used as the negative control (NC); cells cultured in commercial osteogenic differentiation medium for 14 days and in DMEM without liraglutide for an additional 14 days are used as the positive control (PC)[3].

Solubility Information

Solubility	H2O: < 1 mg/mL (insoluble or slightly soluble), Ethanol: < 1 mg/mL (insoluble or slightly soluble), DMSO: 7.9 mg/mL (20.39 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.5814 mL	12.9069 mL	25.8138 mL
5 mM	0.5163 mL	2.5814 mL	5.1628 mL
10 mM	0.2581 mL	1.2907 mL	2.5814 mL
50 mM	0.0516 mL	0.2581 mL	0.5163 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

Choi YJ, et al. Inhibitory effect of mTOR activator MHY1485 on autophagy: suppression of lysosomal fusion. PLoS One. 2012;7(8):e43418. doi: 10.1371/journal.pone.0043418. Epub 2012 Aug 22. Erratum in: PLoS One. 2013;8(1).
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