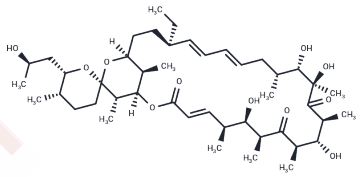
Data Sheet (Cat.No.T6323)

TargetMol

Oligomycin A

Chemical Properties



CAS No. : 579-13-5

Formula: C45H74O11

Molecular Weight: 791.06

Appearance: no data available

Storage: store at low temperature,keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year

Biological Description

Description	Oligomycin A (MCH 32) is an inhibitor of ATP synthase, inhibits oxidative phosphorylation and all the ATP-dependent processes occurring on the coupling membrane of mitochondria.
Targets(IC50)	ATPase,Antibiotic,Antifungal
In vitro	**METHODS**: Human melanoma cells WM3734 were treated with Oligomycin A (0.01-1 μg/mL) for 24 h, and lactate production was measured in culture supernatants. **RESULTS**: Oligomycin A caused an increase in lactate production in WM3734 cells. [1] **METHODS**: Human lung cancer cells H1299 were treated with Oligomycin A (0.1-1000 ng/mL) for 100 min, and cellular respiration was measured using Oxygen Biosensor System plates. **RESULTS**: At 100 and 1000 ng/mL, Oligomycin A completely inhibited cellular respiration within approximately one hour. [2]
In vivo	**METHODS**: To assay anti-inflammatory activity, Oligomycin A (0.25 mg/kg) was injected intraperitoneally into C57BL6 mice in a psoriasis model once daily for five days. **RESULTS**: Oligomycin A reduced ear thickness, keratinocyte proliferation and immune cell infiltration. [3]
Cell Research	ATP and Oligomycin Dose-Response Growth Measurement. Cellular ATP changes are measured by CellTiter-Glo reagent. To measure oligomycin dose-response curves, the cells are plated in 96-well plates at about 400–500 cells/well in 100 μl of culture, dosed the next day, and grown for 4 additional days followed by assaying with Cell-Titer-Glo reagent. The dose-response curves are plotted with nonlinear regression analysis of GraphPad Prism.(Only for Reference)

Solubility Information

Solubility	DMSO: 10 mg/mL (12.64 mM),Sonication is recommended. Ethanol: < 1 mg/mL (insoluble or slightly soluble), H2O: < 1 mg/mL (insoluble or slightly soluble), (< 1 mg/ml refers to the product slightly soluble or insoluble)

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	1.2641 mL	6.3206 mL	12.6413 mL
5 mM	0.2528 mL	1.2641 mL	2.5283 mL
10 mM	0.1264 mL	0.6321 mL	1.2641 mL
50 mM	0.0253 mL	0.1264 mL	0.2528 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.

Reference

Roesch A, et al. Overcoming intrinsic multidrug resistance in melanoma by blocking the mitochondrial respiratory chain of slow-cycling JARID1B(high) cells. Cancer Cell. 2013 Jun 10;23(6):811-25.
Jiang X C, Tu F H, Wei L Y, et al. Discovery of a Novel G-Quadruplex and Histone Deacetylase (HDAC) Dual-Targeting Agent for the Treatment of Triple-Negative Breast Cancer. Journal of Medicinal Chemistry. 2022
Hao W, et al. Oligomycin-induced bioenergetic adaptation in cancer cells with heterogeneous bioenergetic organization. J Biol Chem. 2010 Apr 23;285(17):12647-54.
Franchi L, et al. Inhibiting Oxidative Phosphorylation In Vivo Restrains Th17 Effector Responses and Ameliorates Murine Colitis. J Immunol. 2017 Apr 1;198(7):2735-2746.
Roesch A, et al. Cancer Cell, 2013, 23(6), 811-825.