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Produktinformation

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Lieferung & Zahlungsart

siehe unsere Liefer- und Versandbedingungen

Zuschläge

- Mindermengenzuschlag
- Trockeneiszuschlag
- Gefahrgutzuschlag
- Expressversand

SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

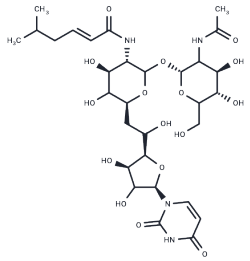
linkedin.com/company/szaboscandic

Data Sheet (Cat.No.T13229)

TargetMol

Tunicamycin

Chemical Properties



CAS No. : 11089-65-9

Formula: C39H64N4O16

Molecular Weight:

Appearance: no data available

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

Biological Description

Description	Tunicamycin is a mixture of antibiotics that inhibit N-linked glycosylation by blocking GlcNAc phosphotransferase (GPT). Tunicamycin has antitumor activity, as well as anti-bacterial, anti-fungal, and anti-viral activity.
Targets(IC50)	Influenza Virus,Antibacterial,Antibiotic,Antifungal
In vitro	**METHODS**: Human hepatocellular carcinoma cells Hep3B were treated with Tunicamycin (1 μg/mL), camptothecin (3 μM), etoposide (5 μM), taxol (0.1 μM), and vincristine (0.1 μM) for 48 h, and cell death was detected by Flow Cytometry. **RESULTS**: Tunicamycin significantly inhibited apoptosis induced by TOP inhibitors (camptothecin and etoposide) but not by microtubule-targeting drugs (taxol and vincristine). [1] **METHODS**: Human hepatocellular carcinoma cells PLC/PRF/5, MHCC-97L and MHCC-97H were treated with Tunicamycin (2.5 μg/mL) for 24 h, and the expression levels of the target proteins were detected by Western Blot. **RESULTS**: Tunicamycin inhibited the phosphorylation of Akt in the three hepatocellular carcinoma cell lines. [2]
In vivo	**METHODS**: To investigate the effects on hepatic energy metabolism, Tunicamycin (1 mg/kg) was administered intraperitoneally to C57BL/6 mice as a single injection. **RESULTS**: Tunicamycin significantly induced hepatic yellow coloration and endoplasmic reticulum stress, and increased serum aspartate aminotransferase and alanine aminotransferase levels.Tunicamycin altered hepatic energy homeostasis by increasing triglyceride accumulation and decreasing glycogen content. [3] **METHODS**: To test the antitumor activity in vivo, Tunicamycin (0.25 mg/kg) was administered orally twice a week for four weeks to Balb/c (nu/nu) mice harboring human triple-negative breast carcinoma tumor MDA-MB-231. **RESULTS**: Within one week of oral administration of Tunicamycin, MDA-MB-231 tumor xenografts were reduced by 65% and there was no systemic and/or organ failure. [4]

Solubility Information

Solubility	DMSO: 14.37 mg/mL (20 mM),Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)

Reference

Dai W, Wang K, Zhen X, et al. Magnesium isoglycyrrhizinate attenuates acute alcohol-induced hepatic steatosis in a zebrafish model by regulating lipid metabolism and ER stress. Nutrition & Metabolism. 2022, 19(1): 1-12.

Tel:781-999-4286 E_mail:info@targetmol.com Address:36 Washington Street,Wellesley Hills,MA 02481