

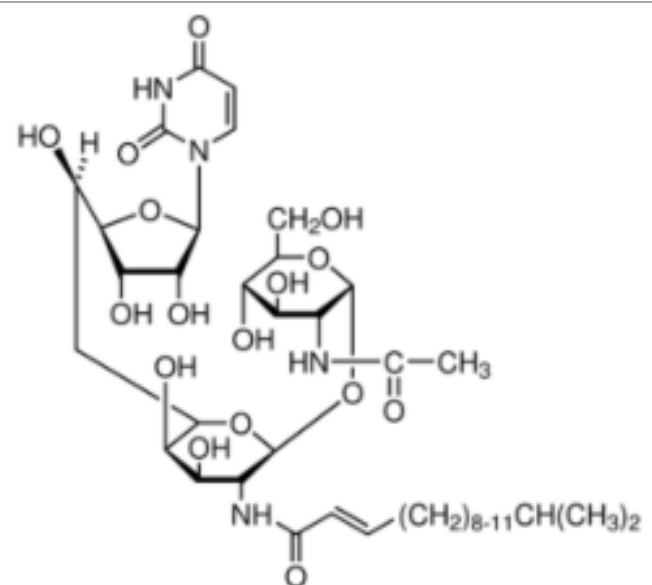
Tunicamycin

SIH-397-25MG

Overview

Product Name	Tunicamycin Small Molecule
Unit Size	25mg
Description	Autophagy inducer
Purity	>98% (HPLC) as a mixture of tunicamycin A, B, C and D

Technical Data

Alternative Name(s)	Tunicamycin from Streptomyces sp.
Formula	C ₃₉ H ₆₄ N ₄ O ₁₆
CAS#	11089-65-9
Molecular Weight	844.95
Chemical Structure	 <p>The chemical structure of Tunicamycin is a complex molecule consisting of a central pyranose ring substituted with a hydroxyl group, a hydroxymethyl group, and a side chain. The side chain includes a pyridine ring, a glucose unit, an acetamido group, and a long-chain fatty acid derivative.</p>
Solubility	Soluble in DMSO (>10mg/ml) or ethanol (5mg/ml; warm).
Source	Isolated from Streptomyces lysosuperficus
Appearance	White solid.
Storage Conditions	-20°C; 1 year+
Shipping Temperature	Shipped Ambient
SMILES	<chem>[C@@H]2O[C@H](O[C@H]1O[C@@H]([C@@H](O)[C@H](O)[C@H]1NC(=O)C)CO)[C@H](NC(=O)\C=C\CC(C)C)[C@@H](O)[C@H]2O)CC(O)[C@H]4O[C@@H]</chem>
Research Area(s)	Autophagy

Biological Description

Function	<p>As a nucleoside antibiotic, Tunicamycin blocks the formation of protein N-glycosidic linkages by inhibiting the transfer of N-acetylglucosamine 1-phosphate to dolichol monophosphate. This causes an induction of glucose-regulated protein 78 (GRP78) mRNA expression, which in turn increases ER stress and subsequently induces autophagy.</p> <ol style="list-style-type: none">1. Unal E.S., et al. (2008) Biochim Biophys Acta. 1778(6): 1407-14.2. Ding W.X., et al. (2007) J Biol Chem. 282(7): 4702-10.3. Ishii S., et al. (1987) J Neurochem. 49(5): 1606-12.4. Zhang J., et al. (2013) J Surg Res. 183(2): 929-35.
Product Citations	PubMed ID: N/A

Material Safety Data Sheet

Tunicamycin SIH-397-25MG

This product is for *in vitro* research use only and is not intended for use in humans or animals

The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Regulatory Information

Classification: D1A- Very Toxic Material Causing Immediate and Serious Toxic Effects, Highly toxic by ingestion, D2A- Very Toxic Material Causing Other Toxic Effects, Teratogen- Reproductive hazard

Safety Phrases:

S22 - Do not breathe dust.

S24/25 - Avoid contact with skin and eyes.

S36/37/39 - Wear suitable protective clothing, gloves and eye/face protection.

Hazard statements:

H300- Fatal if swallowed.

Precautionary statements:

P264- Wash hands thoroughly after handling.

P301 + P310- IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.

Physical Data

This product consists of powder, shipped at ambient temperatures. The physical properties of this product have not been investigated thoroughly. CAS Number: 11089-65-9

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.