

Product Name: Thapsigargin

Catalog No.: 1138

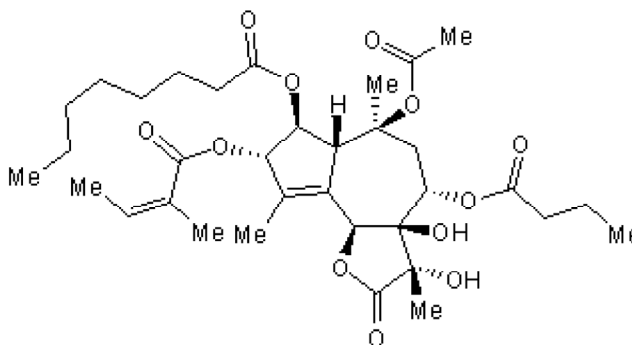
Batch No.: 21

CAS Number: 67526-95-8

IUPAC Name: (3S,3aR,4S,6S,6AR,7S,8S,9bS)-6-(Acetyloxy)-2,3,3a,4,5,6,6a,7,8,9b-decahydro-3,3a-dihydroxy-3,6,9-trimethyl-8-[[[(2Z)-2-methyl-1-oxo-2-butenyl]oxy]-2-oxo-4-(1-oxobutoxy)azuleno[4,5-b]furan-7-yl] octanoate

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	C ₃₄ H ₅₀ O ₁₂
Batch Molecular Weight:	650.76
Physical Appearance:	White solid
Solubility:	DMSO to 100 mM
Storage:	Store at -20°C
Batch Molecular Structure:	



2. ANALYTICAL DATA

HPLC:	Shows 98.1% purity
Mass Spectrum:	Consistent with structure

Caution - Not Fully Tested • Research Use Only • Not For Human or Veterinary Use

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Description:

Thapsigargin is a potent inhibitor of sarco/endoplasmic reticulum Ca²⁺-ATPases (SERCA) that causes endoplasmic reticulum (ER) stress. Thapsigargin can be used to induce autophagy in mammalian cells. In vitro, thapsigargin blocks infection of immortalized and primary human cells with respiratory syncytial virus (RSV), SARS-CoV-2 and influenza A. Thapsigargin protects mice against lethal influenza A viral infection and reduces virus titres in the lungs of treated mice.

Physical and Chemical Properties:

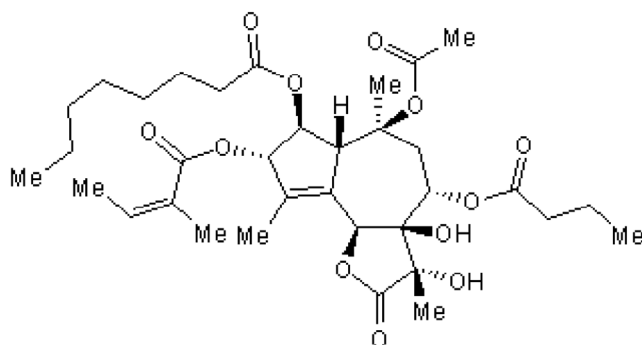
Batch Molecular Formula: C₃₄H₅₀O₁₂

Batch Molecular Weight: 650.76

Physical Appearance: White solid

Minimum Purity: ≥97%

Batch Molecular Structure:



References:

Al-Beltagi et al (2021) Thapsigargin is a broad-Spectrum inhibitor of major human respiratory viruses: coronavirus, respiratory syncytial virus and influenza A virus. *Viruses* **13** 234. PMID: 33546185.

Goulding et al (2020) Thapsigargin at non-cytotoxic levels induces a potent host antiviral response that blocks influenza A virus replication. *Viruses* **12** 1093. PMID: 32992478.

Ding et al (2007) Differential effects of endoplasmic reticulum stress-induced autophagy on cell survival. *J.Biol.Chem.* **282** 4702. PMID: 17135238.

Storage: Store at -20°C

Solubility & Usage Info:

DMSO to 100 mM

This product is supplied as a lyophilized solid and may be very hard to visualize. Solutions should be made by adding solvent directly to the vial. The vial should then be vortexed vigorously to ensure the product has completely dissolved.

Stability and Solubility Advice:

Some solutions can be difficult to obtain and can be encouraged by rapid stirring, sonication or gentle warming (in a 45-60°C water bath).

Information concerning product stability, particularly in solution, has rarely been reported and in most cases we can only offer a general guide. *Unless contradicted by product-specific protocols or instructions, our standard recommendations apply:

SOLIDS: Provided storage is as stated on the product label and the vial is kept tightly sealed, the product can be stored for up to 6 months from date of receipt.

SOLUTIONS: We recommend that stock solutions, once prepared, are stored aliquoted in tightly sealed vials at -20°C or below and used within 1 month. Wherever possible solutions should be made up and used on the same day.

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