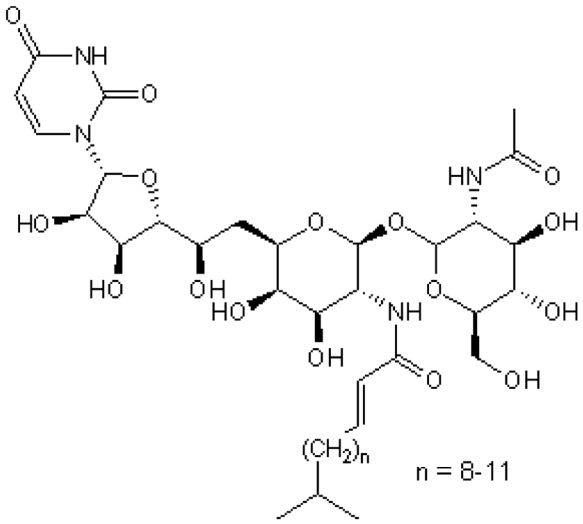
Certificate of Analysis

Product Name: **Tunicamycin** **Catalog No.: 3516** **Batch No.: 14**

CAS Number: 11089-65-9

IUPAC Name: Tunicamycin from *Streptomyces* sp.

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula:	$C_{39}H_{64}N_4O_{16}$ (tunicamycin C, n=10)
Batch Molecular Weight:	844.95
Physical Appearance:	Tan solid
Solubility:	DMSO to 50 mM
Storage:	Store at +4°C
Batch Molecular Structure:	

2. ANALYTICAL DATA

HPLC:	Shows 100% purity
Tunicamycin A:	7.92%
Tunicamycin B:	44.81%
Tunicamycin C:	33.78%
Tunicamycin D:	13.49%

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Description:

Tunicamycin is an antibiotic; inhibits GlcNAc phosphotransferase (GPT). Blocks the formation of N-glycosidic linkages by inhibiting the first step in glycoprotein synthesis. Activity induces ER stress and causes G_1 arrest; can be used to induce autophagy. Tunicamycin contains four main components as follows: Homolog A, n=8, $C_{37}H_{60}N_4O_{16}$, molecular weight = 816.90 Homolog B, n=9, $C_{38}H_{62}N_4O_{16}$, molecular weight = 830.93 Homolog C, n=10, $C_{39}H_{64}N_4O_{16}$, molecular weight = 844.95 Homolog D, n=11, $C_{40}H_{66}N_4O_{16}$, molecular weight = 858.99 The composition of this product will vary from batch to batch and can be found on the relevant certificate of... Please see product specific page on www.tocris.com for full description.

Physical and Chemical Properties:

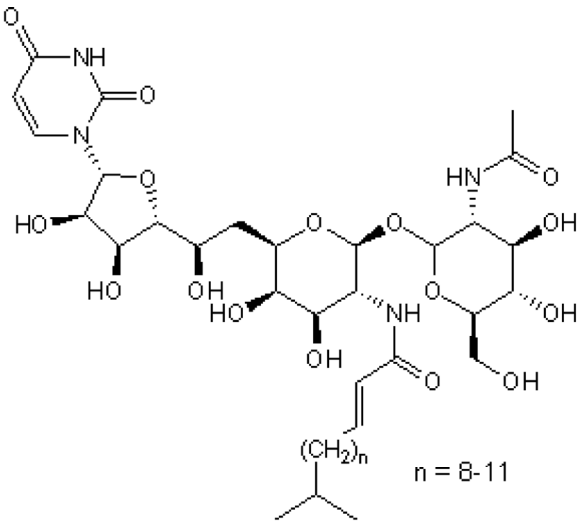
Batch Molecular Formula: $C_{39}H_{64}N_4O_{16}$ (tunicamycin C, n=10)

Batch Molecular Weight: 844.95

Physical Appearance: Tan solid

Minimum Purity: ≥98%

Batch Molecular Structure:



Storage: Store at +4°C

Solubility & Usage Info:

DMSO to 50 mM

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.

References:

Lauer *et al* (2009) Primary murine airway smooth muscle cells exposed to poly(I:C) or tunicamycin synthesize a leukocyte-adhesive hyaluronan matrix. J.Biol.Chem. ***284*** 5299. PMID: 19088077.

Duriez *et al* (2008) The hepatitis B virus precore protein is retrotransported from endoplasmic reticulum (ER) to cytosol through the ER-associated pathway. J.Biol.Chem. ***283*** 32352. PMID: 18805786.

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