

**Product Name:** Tunicamycin

**Catalog No.:** 3516

**Batch No.:** 7

CAS Number: 11089-65-9

IUPAC Name: Tunicamycin from *Streptomyces* sp.

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:** C<sub>39</sub>H<sub>64</sub>N<sub>4</sub>O<sub>16</sub> (tunicamycin C, n=10)

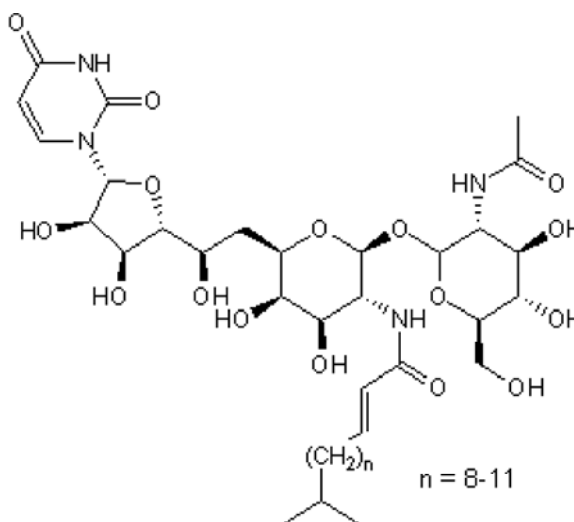
**Batch Molecular Weight:** 844.95 (tunicamycin C, n=10)

**Physical Appearance:** Off-white solid

**Solubility:** DMSO to 50 mM

**Storage:** Store at +4°C

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**Composition by HPLC:**

Tunicamycin A	4.92%
Tunicamycin B	32.26%
Tunicamycin C	42.12%
Tunicamycin D	20.32%

**TLC:** R<sub>f</sub> = 0.31 (Butanol:Acetic acid:Water [60:15:25])

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

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IUPAC Name: Tunicamycin from *Streptomyces* sp.

**Description:**

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<sub>1</sub> arrest; can be used to induce autophagy. Tunicamycin contains four main components as follows: Homolog A, n=8, C<sub>37</sub>H<sub>60</sub>N<sub>4</sub>O<sub>16</sub>, molecular weight = 816.90 Homolog B, n=9, C<sub>38</sub>H<sub>62</sub>N<sub>4</sub>O<sub>16</sub>, molecular weight = 830.93 Homolog C, n=10, C<sub>39</sub>H<sub>64</sub>N<sub>4</sub>O<sub>16</sub>, molecular weight = 844.95 Homolog D, n=11, C<sub>40</sub>H<sub>66</sub>N<sub>4</sub>O<sub>16</sub>, molecular weight = 858.99 The composition of this product will vary from batch to batch and can be found on the relevant certificate of analysis. Please see product datasheet on [www.tocris.com](http://www.tocris.com) for full description.

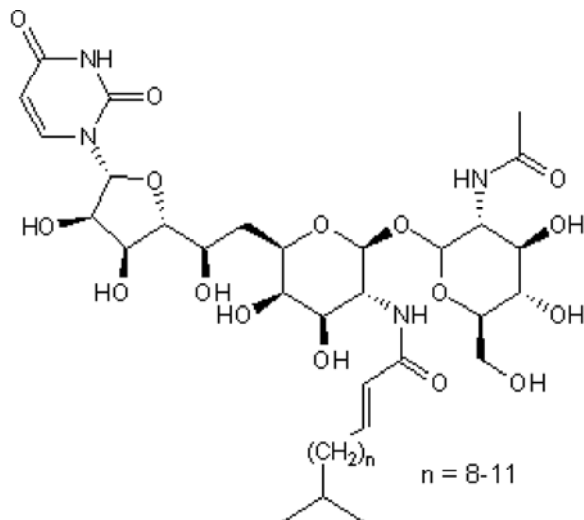
**Physical and Chemical Properties:**

Batch Molecular Formula: C<sub>39</sub>H<sub>64</sub>N<sub>4</sub>O<sub>16</sub> (tunicamycin C, n=10)

Batch Molecular Weight: 844.95

Physical Appearance: Beige solid

**Batch Molecular Structure:**



**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.

**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. Our standard recommendations are:

**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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