

**Product Name:** Actinomycin D

**Catalog No.:** 1229

**Batch No.:** 9

CAS Number: 50-76-0

EC Number: 200-063-6

IUPAC Name: 2-Amino-(*N,N*)-1-bis(hexadecahydro-6,13-diisopropyl-2,5,9-trimethyl-1,4,7,11,14-pentaoxo-1*H*-pyrrolo[2,1]-[1,4,7,10,13] oxatetraazacyclohexadecin-10-yl)-4,6-dimethyl-3-oxo-3*H*-phenoxazine-1,9-dicarboxamide

**1. PHYSICAL AND CHEMICAL PROPERTIES**

**Batch Molecular Formula:**  $C_{62}H_{86}N_{12}O_{16} \cdot 1\frac{1}{4}H_2O$

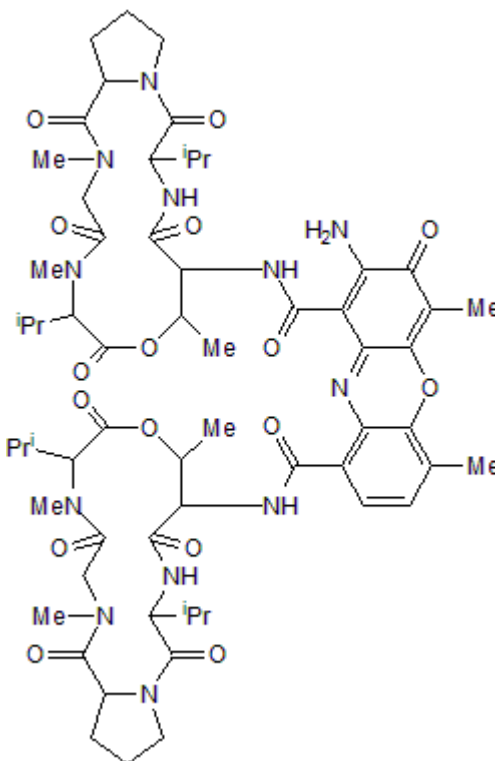
**Batch Molecular Weight:** 1277.95

**Physical Appearance:** Red solid

**Solubility:** DMSO to 50 mM

**Storage:** Desiccate at +4°C

**Batch Molecular Structure:**



**2. ANALYTICAL DATA**

**Melting Point:** Between 252 - 254°C

**HPLC:** Shows 99.4% purity

**Mass Spectrum:** Consistent with structure

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**Description:**

Anti-neoplastic antibiotic. Inhibits RNA polymerase and is a potent inducer of apoptosis.

**Physical and Chemical Properties:**

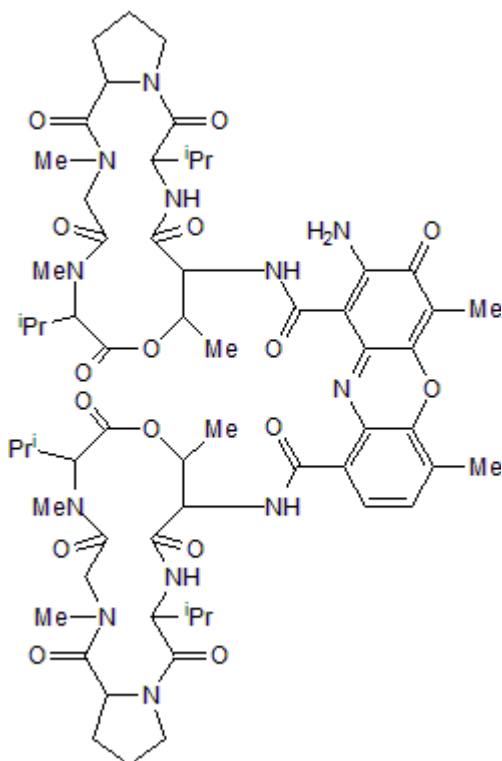
Batch Molecular Formula: C<sub>62</sub>H<sub>86</sub>N<sub>12</sub>O<sub>16</sub>·1¼H<sub>2</sub>O

Batch Molecular Weight: 1277.95

Physical Appearance: Red solid

**Minimum Purity:** >98%

**Batch Molecular Structure:**



**Storage:** Desiccate 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.

**References:**

**Aktipis et al (1981)** A kinetic study on the mechanism of inhibition of RNA synthesis catalyzed by DNA-dependent RNA polymerase. Differences in inhibition by ethidium bromide, 3,8-diamino-6-ethylphenanthridinium bromide and actinomycin D. *Biochim.Biophys.Acta* **655** 278. PMID: 7025910.

**Glynn et al (1992)** Apoptosis induced by actinomycin D, camptothecin or aphidicolin can occur in all phases of the cell cycle. *Biochem.Soc.Trans.* **20** 84S. PMID: 1634006.

**Jeeninga et al (1998)** The mechanism of actinomycin D-mediated inhibition of HIV-1 reverse transcription. *Nucleic Acids Res.* **26** 5472. PMID: 9826774.

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