Product Name: **Mithramycin A** **Catalog No.: 1489** **Batch No.: 6**

CAS Number: 18378-89-7

IUPAC Name: (1*S*)-5-Deoxy-1-C-[(2*S*,3*S*)-7-[[2,6-dideoxy-3-*O*-(2,6-dideoxy-β-D-arabino-hexopyranosyl)-β-D-arabino-hexopyranosyl]oxy]-3-[(O-2,6-dideoxy-3-C-methyl-β-D-ribo-hexopyranosyl-(1.fwdarw.3)-*O*-2,6-dideoxy-β-D-lyxo-hexopyranosyl-(1.fwdarw.3)-2,6-dideoxy-β-D-arabino-hexopyranosyl)oxy]-1,2,3,4-tetrahydro-5,10-dihydroxy-6-methyl-4-oxo-2-anthracenyl]-1-*O*-methyl-D-*threo*-2-pentulose

1. PHYSICAL AND CHEMICAL PROPERTIES

Batch Molecular Formula: $C_{52}H_{76}O_{24}$

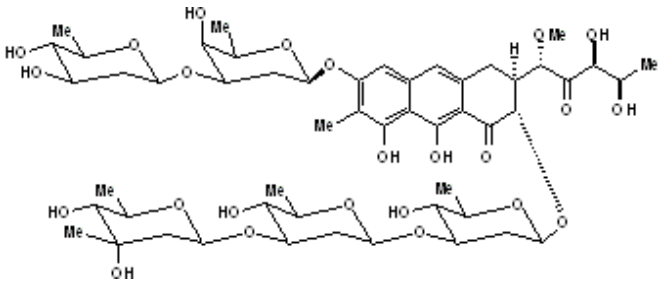
Batch Molecular Weight: 1085.16

Physical Appearance: Yellow solid

Solubility: DMSO to 50 mM

Storage: Desiccate at -20°C

Batch Molecular Structure:



2. ANALYTICAL DATA

Melting Point: At 177°C

HPLC: Shows 96.4% purity

Mass Spectrum: Consistent with structure

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Description:

Anticancer antibiotic that selectively binds to G-C-rich DNA in the presence of Mg^{2+} or Zn^{2+}, inhibiting RNA and DNA polymerase action. Inhibits c-myc expression and induces myeloid differentiation of HL-60 promyelocytic leukemia cells.

Physical and Chemical Properties:

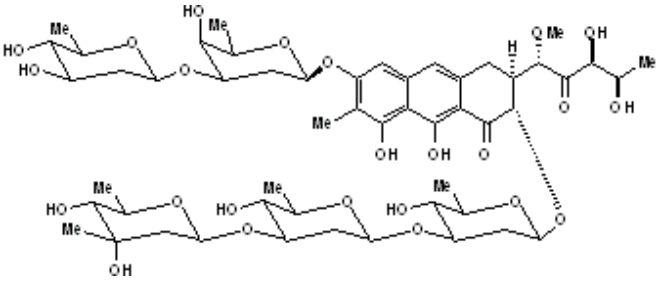
Batch Molecular Formula: $C_{52}H_{76}O_{24}$

Batch Molecular Weight: 1085.16

Physical Appearance: Yellow solid

Minimum Purity: >95%

Batch Molecular Structure:



Storage: Desiccate at -20°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:

Miller *et al* (1987) Mithramycin selectively inhibits transcription of G-C containing DNA. Am.J.Med.Sci. ***294*** 388. PMID: 2962490.

Ray *et al* (1990) Mithramycin selectively inhibits the transcriptional activity of a transfected human c-myc gene. Am.J.Med.Sci. ***300*** 203. PMID: 2147360.

Demicheli and Garnier-Suillerot (1991) Mithramycin cannot bind to left-handed poly(dG-m5dC) in the presence of Mg^{2+} ion. Biochem.Biophys.Res.Commun. ***177*** 511. PMID: 1828342.