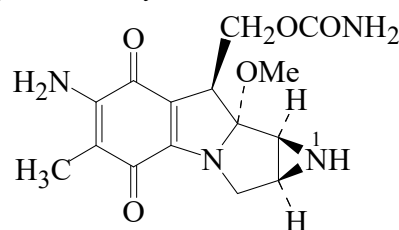




>>Entry Name: Mitomycin C, JAN

Synonym(s): Mitomycin, BAN, INN, USAN. Mitomycin S. Mitiromycin E. Ametycine. Mitocin C. Mutamycin. NSC 26980



CAS Registry Number: 50-07-7

Related CAS Registry Numbers(s): 52081-33-1

Molecular Formula: C₁₅H₁₈N₄O₅

Molecular Weight: 334.331

Accurate Mass: 334.127721

Percentage Composition: C 53.89%; H 5.43%; N 16.76%; O 23.93%

Biological Source: Isol. from *Streptomyces verticillatus*

Use/Importance: Antineoplastic antibiotic

Physical Description: Deep blue-violet cryst.

Melting Point: Mp 360°

Solubility: Sol. H₂O, MeOH, Me₂CO; BERDY SOL: Sol. MeOH, CHCl₃, acids; fairly sol. H₂O, C₆H₆, Et₂O; poorly sol. hexane

Calculated Log P Data: Log P -3.04 (uncertain value) (calc)

UV: [neutral] λ_{max} 217 (ε 24600); 245 (sh) (ε 11000); 360 (ε 23000); 558 (ε 209) (MeOH) (Derep) [neutral] λ_{max} 216 (ε 21880); 254 (); 360 (ε 21400); 420 (); 555 (ε 235) (MeOH) (Berdy) [neutral] λ_{max} 216 (E1%/1cm 742); 360 (E1%/1cm 742); 560 (E1%/1cm 0.06) (H₂O) (Berdy)

Other Data: λ_{max} 216, 360 and 560 nm. Mitomycin S was shown to be a mixt. of Mitomycin C with NaCl. Struct. revised in 1983

Hazard & Toxicity: Adverse systemic effects reported when used therapeutically incl. bone-marrow depression, gastrointestinal, renal, pulmonary and cardiac toxicity. A possible human carcinogen. LD₅₀ (rat, orl) 30 mg/kg. Exp. carcinogen. Exp. reprod. and teratogenic effects ; BERDY HAZD : LD₅₀ (mus, ivn) 5 mg/kg , LD₅₀ (mus, ipr) 9 mg/kg

Aldrich: 85549-9

Sigma: M4287

>>Derivative: N-Me

>>Derivative: N¹-(3-Oxobutyl)

Synonym(s): Antibiotic MMC 4. MMC 4. N-(3-Oxobutyl)mitomycin C

CAS Registry Number: 183997-07-1

Molecular Formula: C₁₉H₂₄N₄O₆

Molecular Weight: 404.422

Accurate Mass: 404.169586

Percentage Composition: C 56.43%; H 5.98%; N 13.85%; O 23.74%

Biological Source: Prod. by *Streptoverticillium* sp. A1143

Biological Use/Importance: Antitumour agent

Physical Description: Red-violet cryst.

Optical Rotation: [α]_D +270 (MeOH)

Solubility: BERDY SOL: Sol. MeOH, EtOAc; poorly sol. H₂O

UV: [neutral] λ_{max} 216 (); 360 () (MeOH) [neutral] λ_{max} 216 (E1%/1cm 547); 360 (E1%/1cm 505) (MeOH) (Berdy)

>>Derivative: Stereoisomer

CAS Registry Number: 87139-12-6

Molecular Formula: C₁₅H₁₈N₄O₅

Molecular Weight: 334.331

Accurate Mass: 334.127721

Percentage Composition: C 53.89%; H 5.43%; N 16.76%; O 23.93%

Biological Source: Prod. by *Streptomyces caespitosus* and *Micromonospora* sp.

Use/Importance: Active against gram-positive and -negative bacteria

Physical Description: Cryst.

Melting Point: Mp 120° (grad. dec.)

Optical Rotation: [α]_D²⁶ +34.7 (c, 0.3 in CHCl₃)

Solubility: BERDY SOL: Sol. MeOH, Me₂CO; poorly sol. H₂O, hexane

UV: [neutral] λ_{max} 243 (ε 5000); 344 (ε 6300) (MeOH) (Berdy)