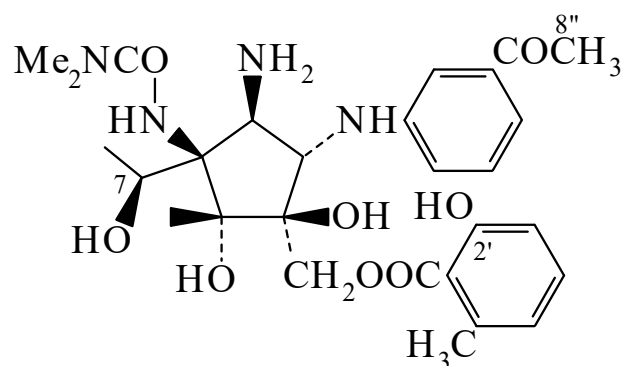




>>Entry Name: Pactamycin

Synonym(s): A3 121A. NSC 52947. U 15800. Antibiotic A3 121A



CAS Registry Number: 23668-11-3

Molecular Formula: C₂₈H₃₈N₄O₈

Molecular Weight: 558.63

Accurate Mass: 558.268966

Percentage Composition: C 60.20%; H 6.86%; N 10.03%; O 22.91%

Source/Synthesis: Isol. from *Streptomyces pactum* var. *pactum*

Use/Importance: Shows activity against gram-positive and gram-negative bacteria and shows antineoplastic props.

Physical Description: Amorph. powder

Optical Rotation: $[\alpha]_D^{25} +79 \rightarrow +23$ (2h, Me₂CO) (c, 1 in EtOH)

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

UV: [acid] $\lambda_{\max}$ 238 (ϵ 26800); 262 (sh) (ϵ 7640); 314 (ϵ 2320); 353 (ϵ 1670) (EtOH/HCl) (Derep) [base] $\lambda_{\max}$ 238 (ϵ 30700); 264 (sh) (ϵ 8650); 320 (ϵ 3310) (EtOH/NaOH) (Derep) [neutral] $\lambda_{\max}$ 239 (ϵ 29400); 264 (sh) (ϵ 8200); 313 (ϵ 2900); 356 (ϵ 1900) (95% EtOH) (Derep) [neutral] $\lambda_{\max}$ 239 (E1%/1cm 526); 313 (E1%/1cm 52); 356 (E1%/1cm 34) (EtOH) (Berdy) [acid] $\lambda_{\max}$ 238 (E1%/1cm 480); 314 (E1%/1cm 41); 352 (E1%/1cm 30) (EtOH-HCl) (Berdy)

Other Data: Amphoteric

Hazard & Toxicity: BERDY HAZD : LD₅₀ (mus, orl) 10.7 mg/kg , LD₅₀ (mus, ivn) 15.6 mg/kg

>>Derivative: 2'-Me ether (?)

Synonym(s): Antibiotic YL 0710M. YL 0710M

CAS Registry Number: 124994-62-3

Molecular Formula: C₂₉H₄₀N₄O₈

Molecular Weight: 572.657

Accurate Mass: 572.284616

Percentage Composition: C 60.83%; H 7.04%; N 9.78%; O 22.35%

Source/Synthesis: Prod. by *Streptomyces* sp. YL 0710M

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

Physical Description: Light-yellow solid

Solubility: BERDY SOL: Sol. MeOH, C₆H₆, toluene; fairly sol. H₂O; poorly sol. hexane

UV: [neutral] $\lambda_{\max}$ 210 (); 240 (); 357 () (MeOH) (Berdy)

Other Data: Not correlated with Pactamycin, but appears to have same stereochem.

>>Derivative: 7-Deoxy

Synonym(s): Cranomycin. A3 121C. PD 118316. Antibiotic A3 121C. Antibiotic PD 118316

CAS Registry Number: 104820-96-4

Molecular Formula: C₂₈H₃₈N₄O₇

Molecular Weight: 542.631

Accurate Mass: 542.274051

Percentage Composition: C 61.98%; H 7.06%; N 10.33%; O 20.64%

Source/Synthesis: Prod. by *Streptomyces* sp.

Use/Importance: Active against gram-positive and mycobacteria and leukaemia

Physical Description: Yellow powder

Melting Point: Mp 129-135 dec.°

Optical Rotation: $[\alpha]_D^{27} +45$ (c, 1 in MeOH)

>>Derivative: 7-Deoxy; hydrochloride

Physical Description: Needles

Melting Point: Mp 172-173°