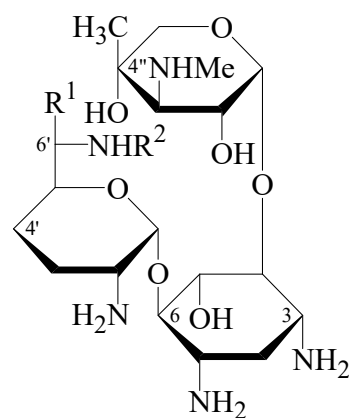




>>Entry Name: Gentamicin C

Synonym(s): Garamycin. Gentiomycin C



Gentamicin C₁, R¹ = R² = CH₃
C_{1a}, R¹ = R² = H
C₂, R¹ = CH₃, R² = H
C_{2b}, R¹ = H, R² = CH₃

Related CAS Registry Numbers(s): 1403-66-3 1405-41-0

VE5850

General Statement: Aminoglycoside antibiotic complex. Consists of a mixt. of closely related and structurally similar components of which the most important are Gentamicins C₁, C_{1a}, C₂ and C_{2b}

Biological Source: Isol. from *Micromonospora* spp.

Use/Importance: Broad-spectrum antibiotic

Other Data: Most extensively clinically used aminoglycoside antibiotic. Gentamicin, BAN, INN is a mixt. of components

Hazard & Toxicity: Ototoxic, nephrotoxic effects and other adverse effects reported when used therapeutically

>>Variant: Gentamicin C₁

CAS Registry Number: 25876-10-2

Molecular Formula: C₂₁H₄₃N₅O₇

Molecular Weight: 477.6

Accurate Mass: 477.31625

Percentage Composition: C 52.81%; H 9.07%; N 14.66%; O 23.45%

Melting Point: Mp 94-100°

Optical Rotation: [α]_D²⁵ +158 (H₂O)

Solubility: BERDY SOL: Sol. H₂O, Py, AcOH; fairly sol. MeOH; poorly sol. butanol, hexane

UV: [neutral] λ_{max} (H₂O) (Berdy)

Hazard & Toxicity: LD₅₀ (mus, ivn) 88 mg/kg ; BERDY HAZD : LD₅₀ (mus, ivn) 81 mg/kg

>>Derivative: Tri-Ac

Molecular Formula: C₂₇H₄₉N₅O₁₀

Molecular Weight: 603.712

Accurate Mass: 603.347945

Percentage Composition: C 53.72%; H 8.18%; N 11.60%; O 26.50%

Melting Point: Mp 206-225°

Optical Rotation: [α]_D²⁵ +143 (MeOH)

>>Derivative: 4''-Demethyl

Synonym(s): 4''-Demethylgentamicin C₁

CAS Registry Number: 66322-28-9

Molecular Formula: C₂₀H₄₁N₅O₇

Molecular Weight: 463.573

Accurate Mass: 463.3006

Percentage Composition: C 51.82%; H 8.91%; N 15.11%; O 24.16%

Biological Source: From *Micromonospora purpurea-nigrescens*

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

Optical Rotation: [α]_D +142 (H₂O)

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

UV: [neutral] λ_{max} (H₂O) (Berdy)

Hazard & Toxicity: BERDY HAZD : LD₅₀ (mus, ivn) 75 mg/kg