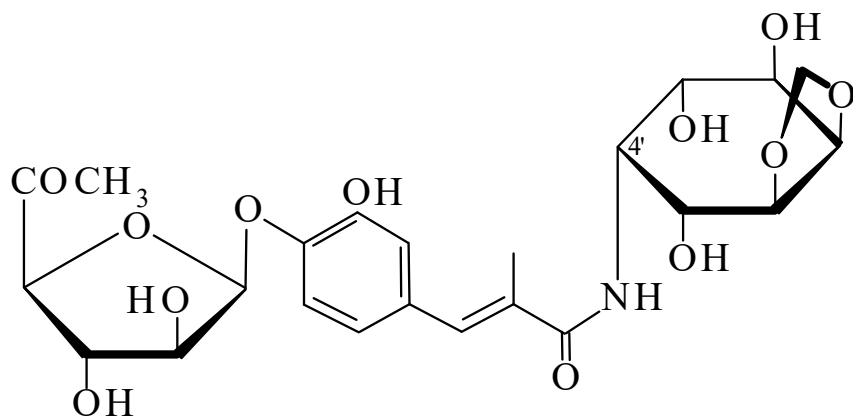




>>Entry Name: Hygromycin A

Synonym(s): Homomycin. Hygromix. Totomycin. XK 43-2. WS 1627B. Antibiotic XK 43-2. Antibiotic 51086. Compound 51086



CAS Registry Number: 6379-56-2

Related CAS Registry Numbers(s): 11049-00-6

Molecular Formula: C₂₃H₂₉NO₁₂

Molecular Weight: 511.482

Accurate Mass: 511.168979

Percentage Composition: C 54.01%; H 5.71%; N 2.74%; O 37.54%

Biological Source: Prod. by *Streptomyces hygroscopicus*, *Streptomyces noboritoensis* and *Corynebacterium equi*

Biological Use/Importance: Active against gram-positive and -negative bacteria incl. mycobacteria, endomoeba and leptospira. Anthelmintic

Physical Description: Amorph. solid

Melting Point: Mp 105-109 dec.°

Optical Rotation: $[\alpha]_{\text{D}}^{25} -126$ (c, 1 in H₂O)

pKa Value: pK_a 8.9

Calculated Log P Data: Log P -3.22 (uncertain value) (calc)

UV: [acid] λ_{max} 214 (ϵ 19400); 272 (ϵ 15000); 302 (sh) (ϵ 10000) (dil HCl) (Derep) [base] λ_{max} 254 (ϵ 17900); 285 (sh) (ϵ); 286 (ϵ 9910); 323 (ϵ 5930) (dil. NaOH) (Derep) [neutral] λ_{max} 215 (ϵ 19000); 272 (ϵ 14900); 302 (sh) (ϵ 10000) (H₂O) (Derep)

Hazard & Toxicity: LD₅₀ (mus, ipr) 1067 mg/kg

>>Derivative: 2,4-Dinitrophenylhydrazone

Physical Description: Red cryst. (H₂O)

Melting Point: Mp 154-156°

>>Derivative: 4'-Epimer

Synonym(s): Epihygromycin. WS 1627D. Antibiotic WS 1627D

CAS Registry Number: 75081-92-4

Molecular Formula: C₂₃H₂₉NO₁₂

Molecular Weight: 511.482

Accurate Mass: 511.168979

Percentage Composition: C 54.01%; H 5.71%; N 2.74%; O 37.54%

Biological Source: From *Streptomyces noboritoensis* and *Corynebacterium equi* sp.

Biological Use/Importance: Weakly active against gram-positive bacteria

Physical Description: Sesquihydrate

Melting Point: Mp 114-117°

Optical Rotation: $[\alpha]_{\text{D}}^{20} -91.1$ (c, 1 in H₂O)

UV: [acid] λ_{max} 214 (ϵ 19400); 272 (ϵ 15000); 302 (sh) (ϵ 10000) (dil HCl) (Derep) [base] λ_{max} 254 (ϵ 17900); 285 (sh) (ϵ); 286 (ϵ 9910); 323 (ϵ 5930) (dil. NaOH) (Derep) [neutral] λ_{max} 215 (ϵ 19000); 272 (ϵ 14900); 302 (sh) (ϵ 10000) (H₂O) (Derep)

References:

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