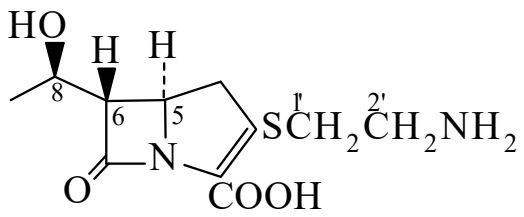
>>**Entry Name: Thienamycin**



CAS Registry Number: 59995-64-1
Related CAS Registry Numbers(s): 63701-31-5 68399-24-6 68510-61-2 74923-12-9 75657-62-4 77448-04-5

Molecular Formula: $C_{11}H_{16}N_2O_4S$
Molecular Weight: 272.324
Accurate Mass: 272.083078
Percentage Composition: C 48.52%; H 5.92%; N 10.29%; O 23.50%; S 11.77%

Biological Source: Prod. by *Streptomyces cattleya*
Use/Importance: Active against gram-positive and -negative bacteria
Melting Point: Mp 205 dec.°
Optical Rotation: $[\alpha]_D^{27}$+82.7 (c, 0.1 in 10m*M* phosphate buffer, pH 6.95)
Solubility: Sol. H_2O; BERDY SOL: Sol. H_2O; fairly sol. MeOH; poorly sol. butanol, hexane
pKa Value: pK_a 3.08 (30m*M* phosphate buffer)
UV: [neutral] λ_{max} 297 (E1%/1cm 355) (H_2O) (Berdy) [acid] λ_{max} 309 () (pH 2 buffer) (Berdy) [base] λ_{max} 300 () (pH 12 buffer) (Berdy)
Hazard & Toxicity: BERDY HAZD : LD_{50} (mus, ivn) 3500 mg/kg

>>**Derivative:** *N*-Ac
Synonym(s): *N*-Acetylthienamycin

CAS Registry Number: 63701-32-6

Molecular Formula: $C_{13}H_{18}N_2O_5S$
Molecular Weight: 314.362
Accurate Mass: 314.093643
Percentage Composition: C 49.67%; H 5.77%; N 8.91%; O 25.45%; S 10.20%
Biological Source: Isol. from *Streptomyces* spp.
Use/Importance: Active against gram-positive and -negative bacteria
UV: [neutral] λ_{max} 301 (E1%/1cm 208) (H_2O) (Berdy)

>>**Derivative:** *N*-Formimidoyl

>>**Derivative:** 1',2'-Didehydro, *N*-Ac
Synonym(s): *N*-Acetyldehydrothienamycin

CAS Registry Number: 68738-07-8

Molecular Formula: $C_{13}H_{16}N_2O_5S$
Molecular Weight: 312.346
Accurate Mass: 312.077993
Percentage Composition: C 49.99%; H 5.16%; N 8.97%; O 25.61%; S 10.27%
Biological Source: From *Streptomyces cattleya*
UV: [neutral] λ_{max} 228 (); 308 () (H_2O) (Berdy)

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