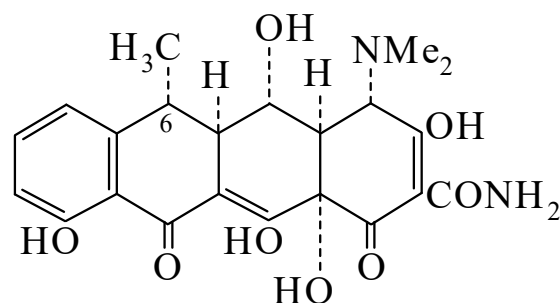




>>Entry Name: 6-Deoxy-5-hydroxytetracycline



6 α -form

Related CAS Registry Numbers(s): 17086-28-1

Molecular Formula: C₂₂H₂₄N₂O₈

Molecular Weight: 444.44

Accurate Mass: 444.153268

Percentage Composition: C 59.46%; H 5.44%; N 6.30%; O 28.80%

General Statement: Semisynthetic tetracycline

Development Status: Doxycycline hyclate approved for clinical use in the UK (1999)

Calculated Log P Data: Log P -2.31 (calc)

UV: [acid] $\lambda_{\max}$ 267 (ϵ 17378); 351 (ϵ 13182) (MeOH-HCl) (Berdy)

>>Variant: 6 α -form

Synonym(s): Doxycycline, BAN, INN, USAN. Vibramycin. Liviatin. GS 3065. Deoxymykoin. NSC 56228

CAS Registry Number: 564-25-0

Molecular Formula: C₂₂H₂₄N₂O₈

Molecular Weight: 444.44

Accurate Mass: 444.153268

Percentage Composition: C 59.46%; H 5.44%; N 6.30%; O 28.80%

Biological Use/Importance: Clinically used broad-spectrum antibiotic more active than 6 β -epimer. Used for the treatment of periodontal disease

Hazard & Toxicity: Gastrointestinal and skin effects reported when used therapeutically, deposited in bones and teeth. LD₅₀ (mus, orl) 1870 mg/kg. Exp. teratogen

Sigma: D2767

>>Derivative: Hydrochloride

Synonym(s): Doxycycline hydrochloride, JAN. Hydramycin‡. Liomycin. Tanamicin. Atridox

CAS Registry Number: 24390-14-5

Extra CAS Registry Numbers(s): 10592-13-9

Physical Description: Light-yellow powder + ½H₂O + ½EtOH (EtOH/HCl)

Melting Point: Mp 201 ° (chars)

Optical Rotation: $[\alpha]_D^{25}$ -109 (c, 1 in 0.1N HCl/MeOH)

Other Data: $\lambda_{\max}$ 267 (log ϵ 4.24) and 351 nm (4.12) (HCl/MeOH). CAS no. refers to compd. with EtOH (Doxycycline hyclate, USAN)

>>Derivative: Compd. with Metaphosphoric acid (3:1); Na salt

Synonym(s): Doxycycline fosfatex, BAN, USAN. AB 08

CAS Registry Number: 83038-87-3

Biological Use/Importance: Possesses improved bioavailability

>>Variant: 6 β -form

CAS Registry Number: 3219-99-6

Molecular Formula: C₂₂H₂₄N₂O₈

Molecular Weight: 444.44

Accurate Mass: 444.153268

Percentage Composition: C 59.46%; H 5.44%; N 6.30%; O 28.80%

Source/Synthesis: Obt. by hydrogenation of Oxytetracycline

Biological Use/Importance: Activity *ca.* 1/3 that of Oxytetracycline

>>Derivative: Hydrochloride

Melting Point: Mp 250-251 dec.°

Optical Rotation: $[\alpha]_D^{25}$ -251 (0.1N H₂SO₄)

Other Data: $\lambda_{\max}$ 267 (log ϵ 4.32) and 244 nm (4.17) (MeOH/HCl)

References: