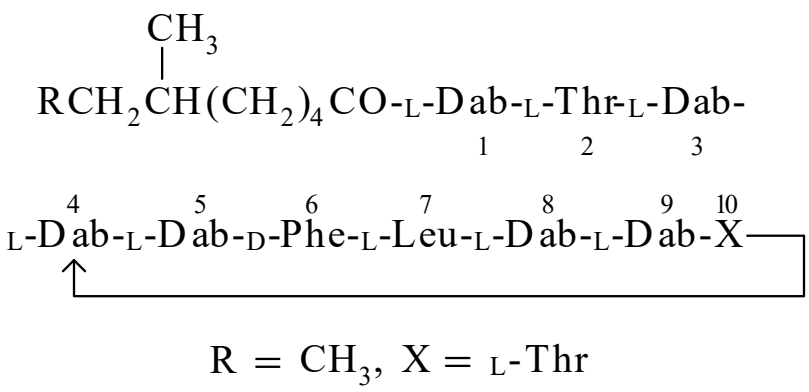
>>**Entry Name: Polymyxin B_1**



CAS Registry Number: 4135-11-9

Molecular Formula: $C_{56}H_{98}N_{16}O_{13}$
Molecular Weight: 1203.49
Accurate Mass: 1202.749929
Percentage Composition: C 55.89%; H 8.21%; N 18.62%; O 17.28%

Biological Source: Isol. from *Bacillus polymyxa*
Biological Use/Importance: Antibacterial agent
Solubility: BERDY SOL: Sol. acids; fairly sol. MeOH; poorly sol. H_2O, butanol, hexane
UV: [neutral] λ_{max} 252 (); 259 (); 264 () (H_2O) (Berdy)
Hazard & Toxicity: BERDY HAZD : LD_{50} (mus, ivn) 6 - 9 mg/kg , LD_{50} (mus, ipr) 19 mg/kg , LD_{50} (mus, scu) 80 mg/kg

>>**Derivative:** Hydrochloride (1:5)

CAS Registry Number: 6883-64-3
Optical Rotation: $[\alpha]_D^{25}$ –85.1 (c, 2.33 in EtOH aq.)

>>**Derivative:** Phosphate (1:5)

CAS Registry Number: 65814-04-2
Optical Rotation: $[\alpha]_D^{25}$ –72 (c, 0.35 in H_2O)
Other Data: Dec. at ca. 185-188°

>>**Derivative:** Mixt. with Polymyxin B_2
Synonym(s): Polymyxin B, INN. Aerosporin. Bacillosporin. Mastimyxin. Polmix. Mikitaicin B

CAS Registry Number: 1404-26-8

Biological Use/Importance: Protein kinase C antagonist and calmodulin inhibitor. Antiendotoxin props., active against gram-negative bacteria. Immunostimulant. Enhances catabolism of LDL *in vitro*
Optical Rotation: $[\alpha]_{Hg}$ –106.3 (1*M* HCl)
Other Data: Polymyxin B conjugated to dextran 70 (PMX 622) has reduced toxicity. Used in the adjunctive therapy of gram-negative sepsis
Hazard & Toxicity: Main adverse effects from parenteral administration are dose-related neurotoxicity and nephrotoxicity. Ototoxic *via* topical use

>>**Derivative:** Sulfomethylated deriv., mixt. with Polymyxins B_2 and B_3
Synonym(s): Sulfomyxin, INN. Dynamyxin

CAS Registry Number: 1405-52-3

Biological Use/Importance: Antibiotic used in the treatment of *E. coli* infections
Other Data: Used as penta-Na salt Sulphomyxin sodium, BAN

>>**Derivative:** Mixt. with Polymyxin B_2; sulfate
Synonym(s): Polymyxin B sulfate, JAN, USAN

CAS Registry Number: 1405-20-5

Fluka: 81334
Sigma: P4932

References:

https://www.baizuoyan.com - CopyRight ©baizuoyan