



>>Entry Name: Fosmidomycin, INN

Synonym(s): [3-(Formylhydroxyamino)propyl]phosphonic acid, 9Cl. FR 31564. Antibiotic FR 31564. FR 31705. Antibiotic FR 31705. FR 33699. Antibiotic FR 33699

CAS Registry Number: 66508-53-0

$(\text{HO})_2\text{P}(\text{O})\text{CH}_2\text{CH}_2\text{CH}_2\text{N}(\text{OH})\text{CHO}$

Molecular Formula: $\text{C}_4\text{H}_{10}\text{NO}_5\text{P}$

Molecular Weight: 183.1

Accurate Mass: 183.029661

Percentage Composition: C 26.24%; H 5.50%; N 7.65%; O 43.69%; P 16.92%

Source/Synthesis: Produced by *Streptomyces lavendulae* and isol. as Na salt

Use/Importance: Clinically useful antibiotic active against gram-negative bacteria. Shows synergism with β -lactam antibiotics. Inhibits bacterial isoprenoid synthesis

Solubility: BERDY SOL: Sol. H_2O , MeOH; fairly sol. Me_2CO , 1-propanol; poorly sol. EtOAc, C_6H_6

UV: [neutral] λ_{max} 0 (end) (ϵ) (H_2O) (Derep) [neutral] λ_{max} (H_2O) (Berdy)

Hazard & Toxicity: BERDY HAZD : LD₅₀ (mus, ivn) 5000 - 15000 mg/kg

>>Derivative: Mono-Na salt

CAS Registry Number: 66508-37-0

Physical Description: Cryst. (MeOH/EtOH)

Melting Point: Mp 189-191°

References:

Okuhara, M. *et al.*, *J. Antibiot.*, 1980, **33**, 24, (isol, struct, ir, pmr, tlc)

Kuroda, Y. *et al.*, *J. Antibiot.*, 1980, **33**, 29, (struct, ir, pmr)

Mine, Y. *et al.*, *J. Antibiot.*, 1980, **33**, 36, (pharmacol)

Kojo, Y. *et al.*, *J. Antibiot.*, 1980, **33**, 44, (pharmacol)

Murakawa, T. *et al.*, *Antimicrob. Agents Chemother.*, 1982, **21**, 224, (pharmacol)

Hemmi, K. *et al.*, *Chem. Pharm. Bull.*, 1982, **30**, 111, (synth, props)

Kuemmerle, H.P. *et al.*, *Int. J. Clin. Pharmacol., Ther. Toxicol.*, 1985, **23**, 515; 521, (pharmacol, tox)

Shigi, Y., *Antimicrob. Agents Chemother.*, 1989, **24**, 131, (pharmacol)

Martindale, *The Extra Pharmacopoeia*, 31st edn., Pharmaceutical Press, 1996, 233