

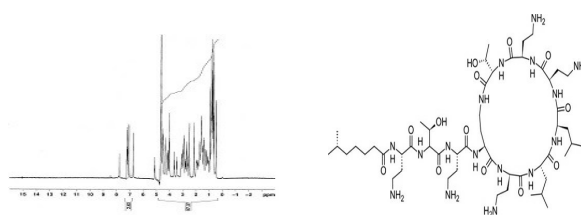


Spectral Data - Polymyxin E2[®] Polymyxin E2 Sulfate, EvoPure[®] PRODUCT DATA SHEET issue date 01/06/2020

Product Name:	Polymyxin E2 Sulfate, EvoPure [®]
Product Number:	P056
CAS Number:	7239-48-7 (free base)
Molecular Formula:	C ₅₂ H ₉₈ N ₁₆ O ₁₃ · xH ₂ SO ₄ (lot specific)
Molecular Weight:	1155.43 (Free base)
Source:	<i>Bacillus polymyxa</i> var. <i>colistinus</i>
Storage Conditions:	-20°C
Description:	Polymyxin E2 sulfate or colistin B is one of the two major components of polymyxin E (colistin). <u>Polymyxin E1</u> and E2 are structurally similar and differ only by a fatty acid group at the N-terminus. Polymyxin E1 contains 6-methyloctanoic acid and polymyxin E2 (colistin B) contains 6-methylheptanoic acid. Together, polymyxin E1 and E2 comprise approximately 85% of polymyxin E; however, 13 different polymyxin E components have been identified.
Mechanism of Action:	Polymyxin E has a bactericidal effect on Gram negative bacteria by interacting with and displacing essential ions in the lipopolysaccharide (LPS) outer cell wall leading to increased permeability and eventually lysis and death of the cell.
Spectrum:	Polymyxin E is used primarily against Gram negative bacteria including <i>Pseudomonas aeruginosa</i> , <i>Klebsiella pneumoniae</i> , and multi-drug resistant <i>Enterobacteriaceae</i> ,
Microbiology Applications	Polymyxin E1 and E2 (colistin A and B, respectively) can be used individually to study and compare em>in vitro antimicrobial activity with colistin (polymyxin E complex) or other polymyxins.

Technical Data:

HNMR Spectra



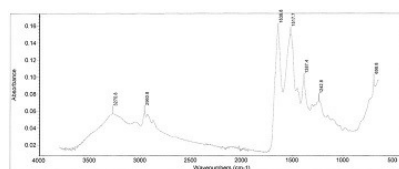
[Click to enlarge](#)

Solvent: D₂O

Instrument: Mercury 300

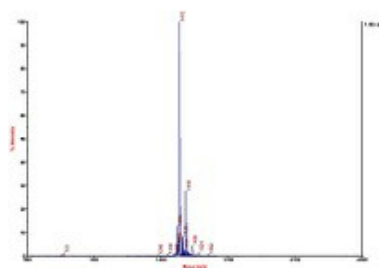
Frequency: 300 MHz

FTIR Spectra



[Click to enlarge](#)

Mass Spectra



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Polarity/Scan Type: Positive

Solvent: H₂O

Solution Concentration: 10 mg/mL

References:

- Falagas, M. E. "Colistin: The Revival of Polymyxins for the Management of Multidrug-resistant Gram-negative Bacterial Infections." *Clinical Infectious Diseases: An Official Publication of the Infectious Diseases Society of America* 40.9 (2005): 1333-341. www.ncbi.gov. Web. 10 Sept. 2012.
- Bergen, Philip J. et. al. "Colistin Methanesulfonate Is an Inactive Prodrug of Colistin against *Pseudomonas Aeruginosa*." *Antimicrobial Agents and Chemotherapy* 50.6 (2006): 1953-958. Ncbi.gov. Web. 5 Oct. 2012.
- Leifert C., Ritchie J.Y. and Waites W.M., Contaminants of plant-tissue and cell cultures. *World Journal of Microbiology and Biotechnology*, Vol. 7, pp. 452-469, 1991.
- MJ Mueller, W Brodschelm. "Signaling in the elicitation process is mediated through the octadecanoid pathway leading to jasmonic acid". *Proc. Natl. Acad. Sci. USA* Vol. 90, pp. 7490-7494, August 1993.
- Li, Jian, and Roger L. Nation. "Comment On: Pharmacokinetics of Inhaled Colistin in Patients with Cystic Fibrosis." *Journal of Antimicrobial Chemotherapy* (2006): 222-23. Oxfordjournals.org. Web. 19 June 2013.
- Decolin, Dominique, and Pierre Leroy. "Hyphenated Liquid Chromatographic Method for the Determination of Colistin Residues in Bovine Tissues." Oxfordjournals.org. N.p., n.d. Web. 19 June 2013.

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