

## Colistin

Cat. No.:	HY-113678
CAS No.:	1066-17-7
Molecular Formula:	C <sub>53</sub> H <sub>100</sub> N <sub>16</sub> O <sub>13</sub> (for E1)
Molecular Weight:	1169.5
Target:	Antibiotic; Bacterial
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.

# Colistin

### BIOLOGICAL ACTIVITY

Description	Colistin (Polymyxin E) is an orally active polypeptide antibiotic. Colistin has excellent activity against various Gram-negative rod-shaped bacteria, including multidrug-resistant <i>Pseudomonas aeruginosa</i> , <i>Acinetobacter baumannii</i> and <i>Klebsiella pneumoniae</i> . Colistin is associated with nephrotoxicity. Colistin can be used for the research of infections caused by Gram-negative bacilli <sup>[1][2]</sup> .								
In Vivo	<p>Colistin (Polymyxin E) (16 mg/kg/day, i.p.) shows the enrichment of cell cycle arrest genes and suggests that injury or cellular stress caused by colistin is acting through p53 to inhibit cell cycle progression<sup>[1]</sup>.</p> <p>Colistin (16 mg/kg/day, i.p.) has elevated blood urea nitrogen (BUN), creatinine, and pathologic evidence of acute tubular necrosis and apoptosis<sup>[1]</sup>.</p> <p>MCE has not independently confirmed the accuracy of these methods. They are for reference only.</p> <table> <tr> <td>Animal Model:</td><td>C57/BL6 mice<sup>[1]</sup></td></tr> <tr> <td>Dosage:</td><td>16 mg/kg/day</td></tr> <tr> <td>Administration:</td><td>16 mg/kg/day, i.p.</td></tr> <tr> <td>Result:</td><td>Detected apoptosis, necrosis PCNA staining in mice.</td></tr> </table>	Animal Model:	C57/BL6 mice <sup>[1]</sup>	Dosage:	16 mg/kg/day	Administration:	16 mg/kg/day, i.p.	Result:	Detected apoptosis, necrosis PCNA staining in mice.
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### CUSTOMER VALIDATION

- Nat Commun. 2022 Mar 2;13(1):1116.
- Adv Sci (Weinh). 2020 Jul 21;7(17):2001374.
- Clin Microbiol Infect. 2020 Sep;26(9):1264-1265.
- Emerg Microbes Infect. 2024 Dec;13(1):2321981.
- Microorganisms. 2024 Mar 13, 12(3), 575.

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## REFERENCES

- [1]. Silpak Biswas, et al. Colistin: an update on the antibiotic of the 21st century. Expert Rev Anti Infect Ther. 2012 Aug;10(8):917-34.
  - [2]. Jian Li, et al. Pharmacokinetics of colistin methanesulphonate and colistin in rats following an intravenous dose of colistin methanesulphonate.
  - [3]. Michael T Eadon, et al. Cell cycle arrest in a model of colistin nephrotoxicity. Physiol Genomics. 2013 Oct 1;45(19):877-88.
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**Caution: Product has not been fully validated for medical applications. For research use only.**

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