



# Quiz

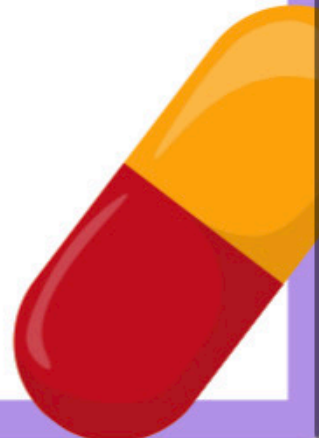
1. What is the primary target of protein synthesis inhibitors?
  - a) DNA replication
  - b) RNA transcription
  - c) Ribosome function
  - d) Cell membrane synthesis
2. Which antibiotic is known to inhibit bacterial protein synthesis by binding to the 30S ribosomal subunit?
  - a) Penicillin
  - b) Erythromycin
  - c) Streptomycin
  - d) Ciprofloxacin
3. Chloramphenicol is an antibiotic that inhibits protein synthesis by targeting which component of the bacterial ribosome?
  - a) 16S rRNA
  - b) 23S rRNA
  - c) 30S subunit
  - d) 50S subunit
4. Macrolide antibiotics, such as azithromycin, act on protein synthesis by binding to the:
  - a) 16S rRNA
  - b) 23S rRNA
  - c) 30S subunit
  - d) 50S subunit





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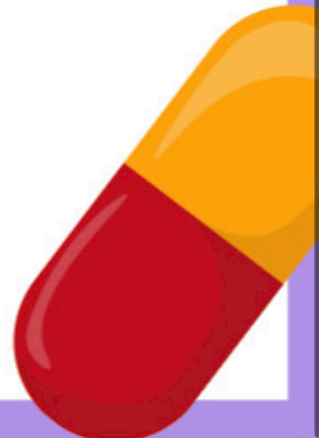
5. Which of the following antibiotics inhibits protein synthesis by preventing aminoacyl-tRNA from binding to the A-site of the ribosome?
- Doxycycline
  - Linezolid
  - Puromycin
  - Gentamicin
6. Puromycin, a natural antibiotic, works by:
- Inhibiting peptidoglycan synthesis
  - Blocking RNA polymerase
  - Mimicking aminoacyl-tRNA and prematurely terminating protein synthesis
  - Inactivating bacterial DNA gyrase
7. What class of antibiotics inhibits protein synthesis by interfering with the translocation step during elongation?
- Aminoglycosides
  - Tetracyclines
  - Lincosamides
  - Streptogramins
8. Streptomycin is effective against bacteria because it:
- Inhibits DNA replication
  - Inhibits RNA transcription
  - Interferes with protein synthesis
  - Disrupts cell membrane synthesis





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9. Which antibiotic is commonly used to treat Gram-positive bacterial infections and works by inhibiting protein synthesis through binding to the 50S ribosomal subunit?
- Ciprofloxacin
  - Clindamycin
  - Rifampin
  - Trimethoprim
10. Azithromycin belongs to which class of antibiotics that inhibit protein synthesis?
- Aminoglycosides
  - Tetracyclines
  - Macrolides
  - Quinolones
11. Linezolid is an antibiotic that inhibits protein synthesis by targeting the initiation complex formation. What is its primary mechanism of action?
- Binding to 16S rRNA
  - Binding to 23S rRNA
  - Inhibiting aminoacyl-tRNA binding
  - Interfering with the formation of the 70S initiation complex
12. What is the primary bacterial target of tetracycline antibiotics in inhibiting protein synthesis?
- mRNA
  - 16S rRNA
  - 23S rRNA
  - Aminoacyl-tRNA





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13. Which antibiotic inhibits bacterial protein synthesis by preventing the formation of the 70S initiation complex?
- a) Erythromycin
  - b) Doxycycline
  - c) Linezolid
  - d) Rifampin
14. Puromycin is an antibiotic that:
- a) Inhibits DNA replication
  - b) Inhibits RNA transcription
  - c) Mimics aminoacyl-tRNA and causes premature termination of protein synthesis
  - d) Disrupts bacterial cell membranes
15. What is the primary mechanism of action of erythromycin in inhibiting bacterial protein synthesis?
- a) Binding to 16S rRNA
  - b) Inhibiting translocation
  - c) Blocking aminoacyl-tRNA binding
  - d) Binding to 23S rRNA





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## Answers key

1. c) Ribosome function
2. c) Streptomycin
3. b) 23S rRNA
4. b) 23S rRNA
5. c) Puromycin
6. c) Mimicking aminoacyl-tRNA and prematurely terminating protein synthesis
7. d) Streptogramins
8. c) Interferes with protein synthesis
9. b) Clindamycin
10. c) Macrolides
11. d) Interfering with the formation of the 70S initiation complex
12. b) 16S rRNA
13. c) Linezolid
14. c) Mimics aminoacyl-tRNA and causes premature termination of protein synthesis
15. a) Binding to 16S rRNA

