



Quiz

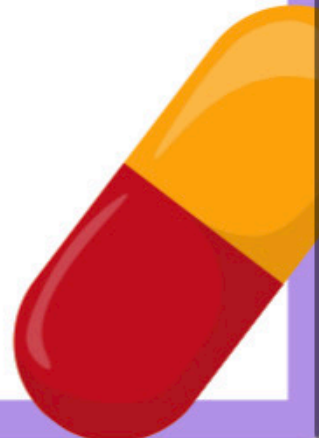
1. What are the stages of penicillin synthesis and transfer?
 - A) Cytoplasmic Stage, Cytoplasmic Membrane Stage, Extracellular Membrane Stage
 - B) Synthesis Stage, Membrane Stage, Excretion Stage
 - C) Glycan Precursor Stage, Membrane Transfer Stage, Transpeptidation Stage
 - D) UDP-GlcNAc Stage, PBP Stage, Cross-linkage Stage
2. What is the role of penicillin-binding proteins (PBPs) in bacterial cell membranes?
 - A) They bind and inactivate bacterial cell membrane proteins
 - B) They catalyze the cross-linking of bacterial cell walls
 - C) They inhibit transpeptidation in bacterial wall synthesis
 - D) They prevent cross-linking of PBPs in bacterial cell membranes
3. What is the mechanism of action of penicillins?
 - A) They inhibit glycan precursor synthesis
 - B) They prevent the transfer of UDP-GlcNAc to membrane receptors
 - C) They bind to penicillin-binding proteins and inhibit transpeptidation
 - D) They interfere with the last step of bacterial cell wall synthesis
4. What is the basis of selective toxicity in penicillins?
 - A) They target specific bacterial species
 - B) They bind specifically to bacterial cell membranes
 - C) They inhibit the growth of rapidly growing bacteria
 - D) They have minimal effect on human cells





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5. What are the consequences of transpeptidation inhibition by penicillins?
- A) Bacterial cell lysis and bactericidal effect
 - B) Slow down bacterial growth and inhibit replication
 - C) Induce bacterial resistance and tolerance
 - D) Encourage the growth of antibiotic-resistant bacteria
6. Which type of penicillin is the drug of choice for the treatment of gas gangrene and syphilis?
- A) Natural penicillins
 - B) Extended-spectrum penicillins
 - C) Antistaphylococcal penicillins
 - D) Antipseudomonal penicillins
7. What is the spectrum of extended-spectrum penicillins?
- A) Gram-negative bacilli only
 - B) Gram-positive bacilli and enterococci
 - C) Gram-positive cocci and gram-negative bacilli
 - D) Gram-negative cocci and gram-positive bacilli
8. Which class of penicillins is effective against penicillinase-producing staphylococci?
- A) Natural penicillins
 - B) Extended-spectrum penicillins
 - C) Antistaphylococcal penicillins
 - D) Antipseudomonal penicillins





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9. What are the mechanisms of resistance to penicillins?

- A) Intrinsic resistance and acquired resistance
- B) Decreased permeability and altered PBPs
- C) β -Lactamase activity and efflux pump
- D) All of the above

10. How is the problem of β -lactamase activity solved?

- A) By inhibiting the production of β -lactamases
- B) By developing antibiotics with lower affinity for PBPs
- C) By introducing β -lactamase inhibitors
- D) By reducing the permeability of bacteria to β -lactams





Quiz

Answer Key:

1. A
2. A
3. D
4. D
5. A
6. A
7. C
8. C
9. D
10. C

