

# Advanced Clinical and Pathological Sciences

Medicine · Answer Key · 8 Questions

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**1. Which specific subunit of the nicotinic acetylcholine receptor is essential for the binding of alpha-bungarotoxin in the neuromuscular junction?**

- A) Alpha-1 subunit**
- B) Beta-1 subunit
- C) Gamma subunit
- D) Delta subunit

**2. In the context of the coagulation cascade, which factor is primarily activated by the tissue factor-factor VIIa complex?**

- A) Factor X**
- B) Factor V
- C) Factor VIII
- D) Factor XI

**3. The 'Langerhans cells' are specialized dendritic cells residing in which specific layer of the epidermis?**

- A) Stratum corneum
- B) Stratum granulosum
- C) Stratum spinosum**
- D) Stratum basale

**4. Which cardiac ion channel is specifically inhibited by class III antiarrhythmic agents like amiodarone?**

- A) Fast sodium channels
- B) L-type calcium channels
- C) Delayed rectifier potassium channels**
- D) T-type calcium channels

**5. Which specific immunoglobulin isotype is primarily involved in the neutralization of toxins and viruses within the mucosal surfaces of the respiratory and gastrointestinal tracts?**

- A) IgG
- B) IgM
- C) IgE
- D) IgA**

**6. In the biosynthesis of heme, which enzyme catalyzes the conversion of coproporphyrinogen III to protoporphyrinogen IX?**

- A) Coproporphyrinogen oxidase**
- B) Ferrochelatase
- C) Uroporphyrinogen decarboxylase
- D) Porphobilinogen deaminase

**7. Which neurotransmitter is the primary target of the medication vigabatrin, which acts by irreversibly inhibiting its catabolic enzyme?**

- A) Glutamate
- B) GABA**
- C) Dopamine
- D) Serotonin

**8. What is the primary mechanism of action of the antibiotic vancomycin in inhibiting bacterial cell wall synthesis?**

- A) Inhibition of transpeptidase
- B) Binding to D-alanyl-D-alanine termini**
- C) Inhibition of beta-lactamase
- D) Disruption of the plasma membrane