

Fundamentals of Immunology

Science · Practice Test · 15 Questions

1. Which type of white blood cell is primarily responsible for producing antibodies?

- A) Red blood cells
- B) B-lymphocytes
- C) Platelets
- D) Macrophages

2. What is the primary function of a vaccine?

- A) To kill all bacteria in the body
- B) To provide passive immunity through antibiotics
- C) To stimulate the immune system to recognize a specific pathogen
- D) To replace damaged tissue with healthy cells

3. Which of the following is considered a physical barrier of the body's first line of defense?

- A) Stomach acid
- B) Skin
- C) T-cells
- D) Antibodies

4. What are pathogens?

- A) Beneficial bacteria
- B) Proteins that store energy
- C) Disease-causing microorganisms
- D) Types of white blood cells

5. Which cell type is known for 'engulfing' and digesting foreign particles and cellular debris?

- A) Phagocytes
- B) Red blood cells
- C) Platelets
- D) Neurons

6. What is the role of memory cells in the immune system?

- A) To break down old antibodies
- B) To remember specific pathogens for a faster future response
- C) To transport oxygen to tissues
- D) To produce heat during a fever

7. Which substance does the body produce to specifically bind to and neutralize antigens?

- A) Antibiotics
- B) Antigens
- C) Antibodies
- D) Histamines

8. What is the inflammatory response primarily characterized by?

- A) A decrease in body temperature
- B) Redness, swelling, and heat at an injury site
- C) The total destruction of white blood cells
- D) An increase in blood oxygen levels

9. Which organ is a primary site for the maturation of T-lymphocytes?

- A) Liver
- B) Thymus
- C) Kidney
- D) Pancreas

10. How do antibiotics differ from vaccines?

- A) Antibiotics prevent viral infections
- B) Antibiotics treat existing bacterial infections
- C) Vaccines provide immediate, short-term relief
- D) Vaccines are used to treat fungal infections

11. What is an antigen?

- A) A specialized white blood cell
- B) A substance that triggers an immune response
- C) A type of antibiotic medication
- D) A barrier that stops pathogens from entering

12. Which of the following is a non-specific defense mechanism?

- A) B-cell antibody production
- B) T-cell activation
- C) Mucus in the respiratory tract
- D) Memory cell formation

13. What is the primary goal of the immune system's secondary response?

- A) To slow down the heart rate
- B) To identify and destroy a known pathogen more rapidly
- C) To produce more red blood cells
- D) To trigger an allergic reaction

14. Which part of the blood helps in the clotting process after an injury occurs?

- A) Plasma
- B) Platelets
- C) Red blood cells
- D) White blood cells

15. What is the term for the immunity gained when a person recovers from a natural infection?

- A) Artificial active immunity
- B) Natural active immunity
- C) Passive immunity
- D) Inherited immunity