

11.1 Antibody Production & Vaccination

Question Paper

Course	DP IB Biology
Section	11. Animal Physiology (HL Only)
Topic	11.1 Antibody Production & Vaccination
Difficulty	Easy

Time allowed: 10
Score: /5
Percentage: /100

Question 1

Antibodies can protect the body from pathogens in several ways.

Which of the options below will not occur following antigen-antibody binding?

- A. Increased susceptibility to phagocytosis.
- B. Neutralisation of toxins to make them harmless.
- C. Secretion of histamine to produce an allergic reaction.
- D. Agglutination of bacteria to reduce their spread.

[1 mark]

Question 2

A child is given a vaccine for a viral disease. A few months later she is in contact with the same virus.

What is the expected response to the second contact with the virus?

- A. Increased number of T-lymphocytes.
- B. Large numbers of antibodies are released.
- C. Large numbers of antigens are released.
- D. Increased number of B-lymphocytes.

[1 mark]

Question 3

When a B-lymphocyte is activated by an antigen, what action is taken?

- A. It engulfs the infected body cell which displays a complementary antigen.
- B. It secretes signalling proteins that stimulate T-lymphocytes to produce plasma cells.
- C. It divides repeatedly to form clones of genetically identical plasma cells.
- D. It attaches to the infected cell displaying the antigen and destroys it.

[1 mark]

Question 4

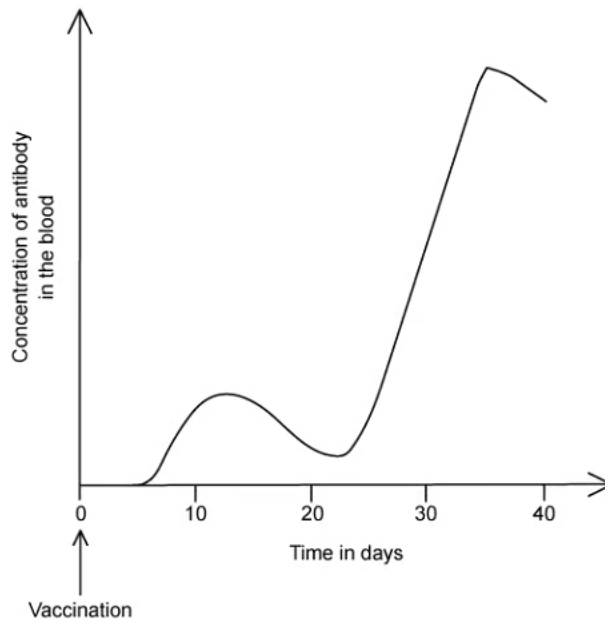
Which type of molecule is most important to directly identify a cell as non-self?

- A. Proteins
- B. Phospholipids
- C. Carbohydrates
- D. Nucleic acids

[1 mark]

Question 5

The amount of antibody produced in response to an antigen in a vaccine is shown in the graph below.



Which statement about the graph is correct?

- A. The second exposure to the antigen occurred at 25 days.
- B. T-helper lymphocytes are activated on day 12.
- C. Memory cells for this antigen are present in the body within 20 days.
- D. The secondary immune response begins at around day 35.

[1 mark]



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