

Immunity

Question Paper 2

Level	International A Level
Subject	Biology
Exam Board	Edexcel
Topic	Microbiology, Immunity and Forensics
Sub-Topic	Immunity
Booklet	Question paper 2

Time Allowed: 40 minutes

Score: /33

Percentage: /100

Grade Boundaries:

A*	A	B	C	D	E	U
>85%	77.5%	70%	62.5%	57.5%	45%	<45%

- (c) There is an 'evolutionary race' between some bacteria, such as *Mycobacterium tuberculosis* (TB), and their hosts.

Suggest how this could affect antigen presentation to T helper cells.
Give an explanation for your answer.

(3)

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(Total for Question 1 = 9 marks)

(ii) Explain the changes in mean level of antibody A after infection with *Bordetella pertussis*.

(3)

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(b) (i) Suggest why antibody B was not present in the blood of these rats until after infection with *Bordetella pertussis*.

(2)

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(ii) Place a cross ☒ in the box next to the term that describes the type of immunity that results in the production of antibody B.

(1)

- A artificial active
- B artificial passive
- C natural active
- D natural passive

(c) Comment on the reliability of the data shown in the graph.

(3)

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(Total for Question 2 = 11 marks)

(iv) Immunoassays use antibodies to identify the protein fragments.

Suggest why antibodies are suitable molecules for identifying protein fragments.

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(c) Gene expression can be analysed by isolating and studying mRNA.

However, the structure and number of mRNA molecules do not always correspond to the proteins in the cell.

Suggest why the mRNA molecules do not always correspond to the proteins in the cell.

(2)

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(Total for Question 3 = 13 marks)