

AS Level Biology A
H020/01 Breadth in Biology

Question Set 21

1. The specific immune system is based on white blood cells called lymphocytes.

- (a) Complete the following passage by using the most appropriate terms from the list. You may use terms once, more than once or not at all.

memory plasma killer T cell antigens antibodies

interleukins phagocyte meiosis mitosis hormones

When a pathogen enters the body it is recognised due to specific molecules on the surface of its cells called**antigens**..... . A phagocyte will engulf the pathogen and process these molecules by displaying them on the surface of the phagocyte. This cell will now interact with a special type of T lymphocyte called a T helper cell. The T helper cells produce.....**interleukins**.....that will activate the B lymphocytes. They start to divide by**mitosis**..... . These cells now differentiate into**plasma**..... cells, which synthesise and release**antibodies**..... .

[5]

- (b) A student wrote the following passage in an essay on the immune system.

Immunisation programmes involve injecting individuals with a small amount of the safe antibody, known as a vaccine. In the UK, babies are given routine vaccinations against a range of infectious diseases including diphtheria and measles. These injections provide a form of natural passive immunity that may last a year, a few years or a lifetime.

State **three** errors that the student has made in this passage.

[3]

Injected with small amount of safe antigen rather than antibody.

Injections provide a form of artificial immunity rather than natural.

Injection of antigens provides a form of active immunity rather than passive.

Total Marks for Question Set 21: 8

OCR

Oxford Cambridge and RSA

Copyright Information

OCR is committed to seeking permission to reproduce all third-party content that it uses in its assessment materials. OCR has attempted to identify and contact all copyright holders whose work is used in this paper. To avoid the issue of disclosure of answer-related information to candidates, all copyright acknowledgements are reproduced in the OCR Copyright Acknowledgements Booklet. This is produced for each series of examinations and is freely available to download from our public website (www.ocr.org.uk) after the live examination series.

If OCR has unwittingly failed to correctly acknowledge or clear any third-party content in this assessment material, OCR will be happy to correct its mistake at the earliest possible opportunity.

For queries or further information please contact The OCR Copyright Team, The Triangle Building, Shaftesbury Road, Cambridge CB2 8EA.

OCR is part of the Cambridge Assessment Group; Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge