OCR GCSE GATEWAY BIOLOGY A · J247

BIOLOGY



EXAM QUESTION PACK

B6.3 MONITORING AND MAINTAINING HEALTH (PACK 2)

SCORE	PERCENTAGE
/10	%

STEMUP

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Gateway Biology A (9-1)

Monitoring and maintaining health

Please note that you may see slight differences between this paper and the original.

Candidates answer on the Question paper.

OCR supplied materials:
Additional resources may be supplied with this paper.

Other materials required:
- Pencil
- Ruler (cm/mm)

Duration: Not set

Candidate forename		Candidate surname	

Centre number						Candidate number				

INSTRUCTIONS TO CANDIDATES

- Write your name, centre number and candidate number in the boxes above. Please write clearly and in capital letters.
- Use black ink. HB pencil may be used for graphs and diagrams only.
- Answer **all** the questions, unless your teacher tells you otherwise.
- Read each question carefully. Make sure you know what you have to do before starting your answer.
- Where space is provided below the question, please write your answer there.
- You may use additional paper, or a specific Answer sheet if one is provided, but you must clearly show your candidate number, centre number and question number(s).

INFORMATION FOR CANDIDATES

- The quality of written communication is assessed in questions marked with either a pencil or an asterisk. In History and Geography a *Quality of extended response* question is marked with an asterisk, while a pencil is used for questions in which *Spelling, punctuation and grammar and the use of specialist terminology* is assessed.
- The number of marks is given in brackets **[ ]** at the end of each question or part question.
- The total number of marks for this paper is **10**.
- The total number of marks may take into account some 'either/or' question choices.

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1 Many types of cancer have been linked to certain genes.

Scientists are trying to find ways to change the genes in embryos to reduce the risks of cancer.

(i) What name is given to the process scientists use to change the genes of an organism?

[1]

(ii) Write down **one** reason why some people disagree with the process given in **(i)**.

[1]

2 Large quantities of one type of antibody can be made by the process shown in **Fig. 20.2**.

These antibodies are called monoclonal antibodies.

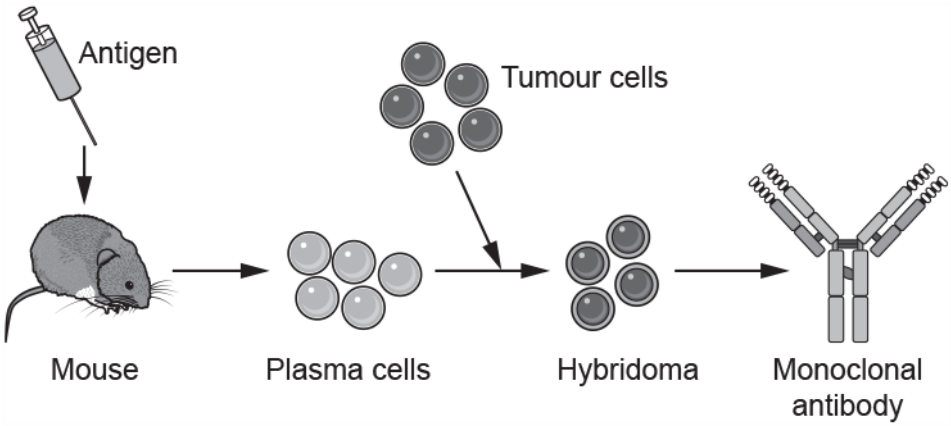


Fig. 20.2

Two scientists discovered a different method of making monoclonal antibodies.

They put genes that code for many different antibodies into viruses. The viruses then make the antibodies on their surfaces.

If an antigen attaches to an antibody, the scientists use the gene for this antibody to genetically engineer bacteria. The bacteria are then used to make large quantities of the antibody.

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(i) Describe how scientists could use the antibody gene to genetically engineer bacteria to make many copies of the antibody.

[4]

(ii) Many people would prefer to use antibodies made using bacteria and viruses, rather than the method shown in **Fig. 20.2.**

Suggest an explanation for this.

[2]

(iii) In 2018, the scientists were awarded the Nobel Prize for their work.

Explain why their work had to be peer reviewed before they were awarded the prize.

[2]

END OF QUESTION PAPER

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