



## QUESTION WORKBOOK

# Genomes, screening and gene therapy: what a sequence is good for

Gene regulation, genomics and biotechnology · Unit B17

AQA 3.8.3, 3.8.4.2, 3.8.4.3 · OCR A 6.1.3 · Edexcel A Topic 2, Topic 6 · CAIE 19.2

5 questions · 16 marks

NAVY SCREEN EDITION

**SECTION A** · Short, 1 to 2 marks

**A1** State what a genome project produces, and state what annotation adds to that product afterwards. [2]

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**SECTION B** · Standard, 3 to 5 marks

**B1** Explain why the sequenced genome of a bacterium gives its proteome almost directly, while the sequenced genome of a human does not. [4]

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**B2** Compare somatic gene therapy with germ line gene therapy, referring to which cells are altered, what is inherited, and how each stands in law. [4]

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**B3** Explain how a labelled DNA probe is used to find out whether a person carries a particular allele. [3]

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**B4** A profile from a crime scene matches a suspect, and the court is told that the probability of such a match in an unrelated person chosen at random is one in a billion. A lawyer says there is therefore a one in a billion chance that the suspect is innocent. Explain why that statement is wrong. [3]

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