ONTARIO BIOLOGY, GRADE 12, UNIVERSITY PREPARATION (SBI4U) · UNIT C

Molecular Genetics — Practice Test

Ontario Biology, Grade 12, University Preparation (SBI4U) • 10 questions

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **A repressor protein in the lac operon binds to the**

- **A** Operator
- **B** Primer
- **C** Ribosome
- **D** Promoter

Understand It with Pulse | Flag a mistake

2 **When lactose is present, the lac operon is switched**

A Off permanently

B Moved to another chromosome

C On

D Deleted

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3 **DNA fingerprinting compares patterns of**

A Cell sizes

B Whole chromosomes

C Protein shapes

D Short repeated DNA sequences

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4 **A transgenic organism contains a gene from**

A Its mitochondria only

B A virus only

C Another species

D Its own genome duplicated

Understand It with Pulse | Flag a mistake

5 **Which application uses recombinant insulin production**

A Cloning sheep

B DNA fingerprinting

C Gene therapy for cystic fibrosis

D Bacteria producing human insulin

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6 **Epigenetic changes affect gene expression without changing the**

A DNA sequence

B Protein sequence

C RNA sequence

D Cell type

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7 **Methylation of DNA generally acts to**

A Activate all genes

B Duplicate chromosomes

C Repress gene expression

D Increase mutation rate

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8 **A missense mutation in a gene results in a protein with**

- A a different amino acid
- B no amino acid
- C a stop codon
- D two amino acids

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9 **Which enzyme seals nicks in the DNA backbone during cloning**

- A DNA polymerase
- B DNA ligase
- C Primase
- D Helicase

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10 **If a DNA template sequence is TAC, the mRNA codon produced is**

A UAC

B AUG

C TAC

D ATG

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ANSWER KEY

1.	A	**5.**	D	**9.**	B
2.	C	**6.**	A	**10.**	B
3.	D	**7.**	C		
4.	C	**8.**	A		

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