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Crash Course Biology #36: How Genes Express Themselves

Name: _____ Date: _____

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1. Nearly all cells contain an identical copy of an organism's _____.
2. The ability of cells to regulate which genes are turned on or off is called _____.
3. The process of making RNA from DNA is known as _____.
4. The process of using mRNA to build a protein is called _____.
5. Structures called _____ translate mRNA into proteins.
6. A section of DNA that provides instructions to make a protein is called a _____.
7. The short segment of non-coding DNA where transcription factors bind is called a _____.
8. The molecules that assist in regulating gene expression by binding to mRNA and breaking it down are called _____.
9. The process of selectively using different exons in mRNA to create multiple proteins from the same gene is called _____.
10. The modification of histones to expose or hide DNA sections for transcription is known as _____.
11. A process where molecules attach to DNA to turn off genes is called _____.
12. Gene regulation that can be inherited without changing the actual DNA sequence is called _____.
13. A protein that binds to DNA and helps initiate transcription is called a _____.
14. Sections of mRNA that get removed before translation are called _____.
15. The concept that environmental factors can influence gene expression through modifications like methylation is part of _____.

Crash Course Biology #36: How Genes Express Themselves – KEY

1. Nearly all cells contain an identical copy of an organism's *genetic code*.
2. The ability of cells to regulate which genes are turned on or off is called *gene regulation*.
3. The process of making RNA from DNA is known as *transcription*.
4. The process of using mRNA to build a protein is called *translation*.
5. Structures called *ribosomes* translate mRNA into proteins.
6. A section of DNA that provides instructions to make a protein is called a *gene*.
7. The short segment of non-coding DNA where transcription factors bind is called a *control element*.
8. The molecules that assist in regulating gene expression by binding to mRNA and breaking it down are called *microRNA*.
9. The process of selectively using different exons in mRNA to create multiple proteins from the same gene is called *alternative splicing*.
10. The modification of histones to expose or hide DNA sections for transcription is known as *histone modification*.
11. A process where molecules attach to DNA to turn off genes is called *DNA methylation*.
12. Gene regulation that can be inherited without changing the actual DNA sequence is called *epigenetics*.
13. A protein that binds to DNA and helps initiate transcription is called a *transcription factor*.
14. Sections of mRNA that get removed before translation are called *introns*.
15. The concept that environmental factors can influence gene expression through modifications like methylation is part of *epigenetic inheritance*.

15 Questions

Answer Key Included

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