

Transcription

Read Chapter 9.1-9.2

Fill in the Blanks

1. Sequences of DNA nucleotides make up genes. DNA is double stranded. The strand that contains the gene sequence is the _____ strand, also called the sense strand and the opposite strand is the _____, also called the antisense strand.
2. Humans have 2 copies of every gene, called _____.
3. DNA codes for _____ that codes for _____.
4. Transcription occurs in the _____.
5. Transcription begins when the enzyme _____ binds to the _____ regulatory region upstream of the gene.
6. The 3 steps of transcription are:
 - a. _____
 - b. _____
 - c. _____
7. RNA polymerase adds RNA nucleotides in the ___ to ___ direction.
8. Transcription ends at the _____ sequence.
9. Below is a gene sequence. DNA is double stranded. Use the correct strand of DNA to make the correct RNA strand. Label 5' and 3' ends.

sense strand (coding): **5' ATGGCCTATGAATCG 3'**

antisense strand (template): **3' TACCGGATACTTAGC 5'**

mRNA sequence _____

10. Eukaryotic genes have non-coding regions called introns and coding regions called _____.
11. Prokaryotes (do / do not) _____ have introns.
12. RNA processing involves:
 - a. _____

b. _____

c. _____

13. RNA processing occurs in the _____.

14. The _____ helps to protect the RNA from degradation

15. Combining different exons is a process called _____

16. The human genome is approximately _____% exons.