

الفصل الأول لعام 1438/1439 هـ
مادة 351 حدق- وراثة الأحياء الدقيقة
م 2-1

Q) Below is a single-stranded DNA sequence of part of a hypothetical genome for small gene:

GTCCGGCTGACTAATGCCAATAACAAGAGGAGCGTGGATTTTGGTTAA

- Write the sequence of the second complementary strand of this DNA and label the 5' and 3' ends of both strands?
- What is the sequence of the mRNA produced from this sequence? Label the 5' and 3' ends?
- What is the sequence of the protein produced from the mRNA (amino acids sequence)?

Q) Below is the double-stranded DNA sequence of part of a hypothetical genome for small gene:

5' GAGCCATGCATTATCTAGATAGTAGGCTCTGAGAATTTATCTC 3'
3' CTCGGTACGTAATAGATCTATCATCCGAGACTCTTAAATAGAG 5'

- Which strand of DNA shown, the top or the bottom, is the template strand?
- What is the sequence of the mRNA produced from this gene? Label the 5' and 3' ends?
- What is the sequence of the protein produced from the mRNA (amino acids sequence)?

الفصل الأول لعام 1439/1438 هـ
مادة 351 حدق- وراثة الأحياء الدقيقة
2-1 م

Q) Below is the amino acids sequence of a produced protein?

MYHQEDKNFWC

1. What is the sequence of the mRNA that produced this amino acids sequence? Label the 5' and 3' ends?
2. What is the double-stranded DNA sequence that produced this protein sequence?

Q) Below is the mRNA sequence produced from a DNA sequence?

AUGGCGGAAGGUCAACAUCGUUGUUUCGGGCCCAA

1. What is the sequence of double-stranded DNA that produced this mRNA sequence? Label the 5' and 3' ends?
2. What is the sequence of the protein produced from this mRNA (amino acids sequence)?