

Dry Lab #1 Questions.

ANSWERS

The following is the base sequence on one strand of a DNA molecule:

3' AATGCCAGTGGTTCGCAC 5'

1. Give the base sequence of the complementary DNA strand.

TTACGGTCA CCA AGC GTG

3. Give the base sequence of the strand of mRNA read from the original DNA strand.

UUA CCG UCA CCA AGC GUG

5. What protein fragment would this mRNA code for?

leucine | arginine | serine | proline | serine | valine

6. If the fourth nucleotide in the original DNA strand were changed from G to C, what would the resulting mRNA look like?

UUA GGG UCA CCA AGC GUG * missense

7. What would the resulting protein look like?

leucine | glycine | serine | proline | serine | valine

8. If a G were added to the original DNA strand after the third nucleotide, what would the resulting mRNA look like?

UUA CCGG UCA CCA AGC GUG * frameshift mutation

9. What would the resulting protein look like?

leucine | alanine | valine | threonine | lysine | arginine

10. If the eighth nucleotide in the original DNA strand were changed from G to C, what would the resulting mRNA look like?

UUA CCG UGA CCA AGC GUG

11. What would the resulting protein look like?

leucine | arginine | stop * nonsense mutation
* termination