

Protein Synthesis Review

Task: Determine the mRNA and tRNA codons and anticodons from the original DNA strand. After learning the amino acid names, determine the sequence of amino acids that each DNA strand codes for. Remember: the amino acid chart matches up mRNA codons *NOT* tRNA anticodons.

1. DNA: T A C G A G C C T A G C A T G A T T
mRNA: _____
tRNA: _____

Amino Acid Sequence: _____

2. DNA: T A C T G A G C T C G A A A A A T C
mRNA: _____
tRNA: _____

Amino Acid Sequence: _____

3. DNA: T A C T A T G G A T G C A G T A C T
mRNA: _____
tRNA: _____

Amino Acid Sequence: _____

4. DNA: T A C C A T T G C A C G G T A A T T
mRNA: _____
tRNA: _____

Amino Acid Sequence: _____

Answer Key

1. DNA: T A C G A G C C T A G C A T G A T T
mRNA: AUG CUC GGA UCG UAC UAA
tRNA: UAC GAG CCU AGC AUG AUU

Amino Acid Sequence: **Start, Leucine, Glycine, Serine, Tyrosine, Stop**

2. DNA: T A C T G A G C T C G A A A A A T C
mRNA: AUG ACU CGA GCU UUU UAG
tRNA: UAC UGA GCU CGA AAA AUC

Amino Acid Sequence: **Start, Threonine, Arginine, Alanine, Phenylalanine, Stop**

3. DNA: T A C T A T G G A T G C A G T A C T
mRNA: AUG AUA CCU ACG UCA UGA
tRNA: UAC UAU GGA UGC AGU ACU

Amino Acid Sequence: **Start, Isoleucine, Proline, Threonine, Serine, Stop**

4. DNA: T A C C A T T G C A C G G T A A T T
mRNA: AUG GUA ACG UGC CAU UAA
tRNA: UAC CAU UGC ACG GUA AUU

Amino Acid Sequence: **Start, Valine, Threonine, Cysteine, Histidine, Stop**