

Name: _____ Date: _____ Period: _____

Determining Amino Acid Sequence of Proteins

DIRECTIONS: Use the Codon Wheel on the left to match the amino acid to its mRNA codon. Use the table to the right to find the full name for each abbreviation.

EXAMPLE

DNA: **GGTTACGGCTATGGCCGAACTTAT**

STEP 1: Transcribe the DNA sequence into its complementary mRNA strand

mRNA **AUG|CCG|AUA|CCG|GCU|UGA**

STEP 2: Separate the mRNA sequence into codons by placing a line after every third nucleotide.

STEP 3: Translate the mRNA to tRNA.

tRNA **UAC|GGC|UAU|GGC|CGA|ACU**

STEP 4: Use either the Codon Chart to determine the amino acid from the mRNA. Then write the three-letter abbreviation.

A.A. **met-pro-ile-pro-ala**

Remember!!

1. The tRNA carries the amino acid that is coded for by the mRNA. So it's the codon of the mRNA that we use to determine the amino acid.
2. There is not an amino acid for the STOP codon.
3. Read through the code. Start only when you see the code to start and stop when you see the code to stop.

1. DNA: **TACTTGCTCGCTAAAATTGTTAGA**

mRNA: _____

A.A: _____

Protein: _____

2. DNA: **GACTACCCCGTAGTTTAAGTTATC**

mRNA: _____

A.A: _____

Protein: _____

3. DNA: **AATTGGTACCTAGGATCCCTAATTCCG**

mRNA: _____

A.A: _____

Protein: _____

4. DNA: **TACGGCCAAGCTTGGCGCCGTACT**

mRNA: _____

A.A: _____

Proteins: _____