**Instructions:**

1. Using the coding DNA strand below, separate the nucleotides into codons for each reading frame.

2. Use your codon chart to translate the first 5 amino acids in each reading frame. Use the 1-letter code for each amino acid.

3. Use a highlighter to indicate any potential starts (ATG, TTG, GTG)

**+1**

5’ATGGGAGACGCCAAGACCAGCGTCCGCTACCAGAGCAACATCATGGAA 3’

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5’ATGGGAGACGCCAAGACCAGCGTCCGCTACCAGAGCAACATCATGGAA 3’

**+2**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**+3**

5’ATGGGAGACGCCAAGACCAGCGTCCGCTACCAGAGCAACATCATGGAA 3’

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3’TACCCTCTGCGGTTCTGGTCGCAGGCGATGGTCTCGTTGTAGTACCTT 5’

**-1**

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3’TACCCTCTGCGGTTCTGGTCGCAGGCGATGGTCTCGTTGTAGTACCTT 5’

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**-2**

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3’TACCCTCTGCGGTTCTGGTCGCAGGCGATGGTCTCGTTGTAGTACCTT 5’

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**-3**

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