**Mutations Practice #2**

*DIRECTIONS: Identify the type of mutation (insertion, deletion, silent, missense, nonsense) in the examples below and describe how the protein is* ultimately affected by the mutation.

**Example #1:**

Wild type mRNA: A U G A A A U U C C G A A C U U C A U A A

Mutant mRNA: A U G U A A U U C C G A A C U U C A U A A

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example #2:**

Wild type mRNA: A C U A U G C C G C U A A A U G C A A U U U A A

Mutant mRNA: A C U A U G C C C G C U A A A U G C A A U U U A A

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example #3:**

Wild type mRNA: C G U U U A A U G C G G C A U G A U U A G A U U

Mutant mRNA: C G U U A A U G C G G C A U G A U U A G A U U

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example #4:**

Wild type mRNA: A G U U U A A U G C C U U A C U U A G G U C U A U A G A C U

Mutant mRNA: A G U U U A A U G C C G U A C U U A G G U C U A U A G A C U

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example #5:**

Wild type mRNA: A G C A U G C G G U U G G C G C C A G G A U A A U G G U

Mutant mRNA: A C C A U G C G G U U G G C G C C A G G A U A A U G G U

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example #6:**

Wild type mRNA: A G C A U G C G G U U G G C G C C A G G A U A A U G G U

Mutant mRNA: A G C A U G C G G C G G U U G G C G C C A G G A U A A U G G U

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example #7:**

Wild type mRNA: C G U U U A A U G C G G C A U G A U U A G A U U

Mutant mRNA: C G U U U A A U G C G G C A U G A U A G A U U

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Example #8:**

Wild type mRNA: U U A A U G C G G C A U G A U U A G A U U U G A

Mutant mRNA: U U A A U G C G G C A U G A C U A G A U U U G A

Type of Mutation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Effect on Protein being translated: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_