**From DNA to Protein**

The Process:

**DNA 🡺 RNA 🡺 AUG 🡺 Codons 🡺 Amino Acids to stop 🡺 Protein**

or

1. Take **DNA** sequence
2. Turn to **RNA** (change all T’s to U’s)
3. Find **AUG**
4. Split the rest of the sequence into **codons** from there
5. Turn codons into **amino acids** until you hit STOP
6. The **protein** is the string of amino acids from MET to the amino acid before STOP

**Practice Test Answers:**

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| --- | --- |
| **DNA:** ACCATGCCCCGTTGATTT  🡻  **RNA:** ACCAUGCCCCGUUGAUUU  **🡻**  **START CODON:** ACC**AUG**CCCCGUUGAUUU  🡻  **CODONS: AUG-**CCC-CGU-UGA-UUU  🡻  **Amino Acids** MET-PRO-ARG-STOP  🡻  **Protein:** MET-PRO-ARG | Macintosh HD:Users:user:Desktop:central_dogma.v2.jpg |

**Practice Strands**

|  |  |
| --- | --- |
| **1)**  **DNA**: AATGTCAGAGGTGAAATGCTATTGAGGT  🡻  **RNA**: AAUGUCAGAGGUGAAAUGCUAUUGAGGU  🡻  **Start Codon**: A**AUG**UCAGAGGUGAAAUGCUAUUGAGGU  🡻  **Codons: AUG-**UCA-GAG-GUG-AAA-UGC-UAU-UGA-GGU  🡻  **Amino Acids**: Met-Ser-Glu-Val-Lys-Cys-Tyr-**STOP**-Gly  🡻  **Protein**: Met-Ser-Glu-Val-Lys-Cys-Tyr  *(Since GLY comes after stop, it is not included)* | Macintosh HD:Users:user:Desktop:3.gif |
| **2)**  **DNA**: TTTATATGGCAAGAGATAATTGTTGA  🡻  **RNA**: UUUAUAUGGCAAGAGAUAAUUGUUGA  🡻  **Start Codon**: UUUAU**AUG**GCAAGAGAUAAUUGUUGA  🡻  **Codons: AUG-**GCA-AGA-GAU-AAU-UGU-UGA  🡻  **Amino Acids**: Met-Ala-Arg-Asp-Asn-Cys-**STOP**  🡻  **Protein**: Met-Ala-Arg-Asp-Asn-Cys | **Macintosh HD:Users:user:Desktop:2.jpg** |