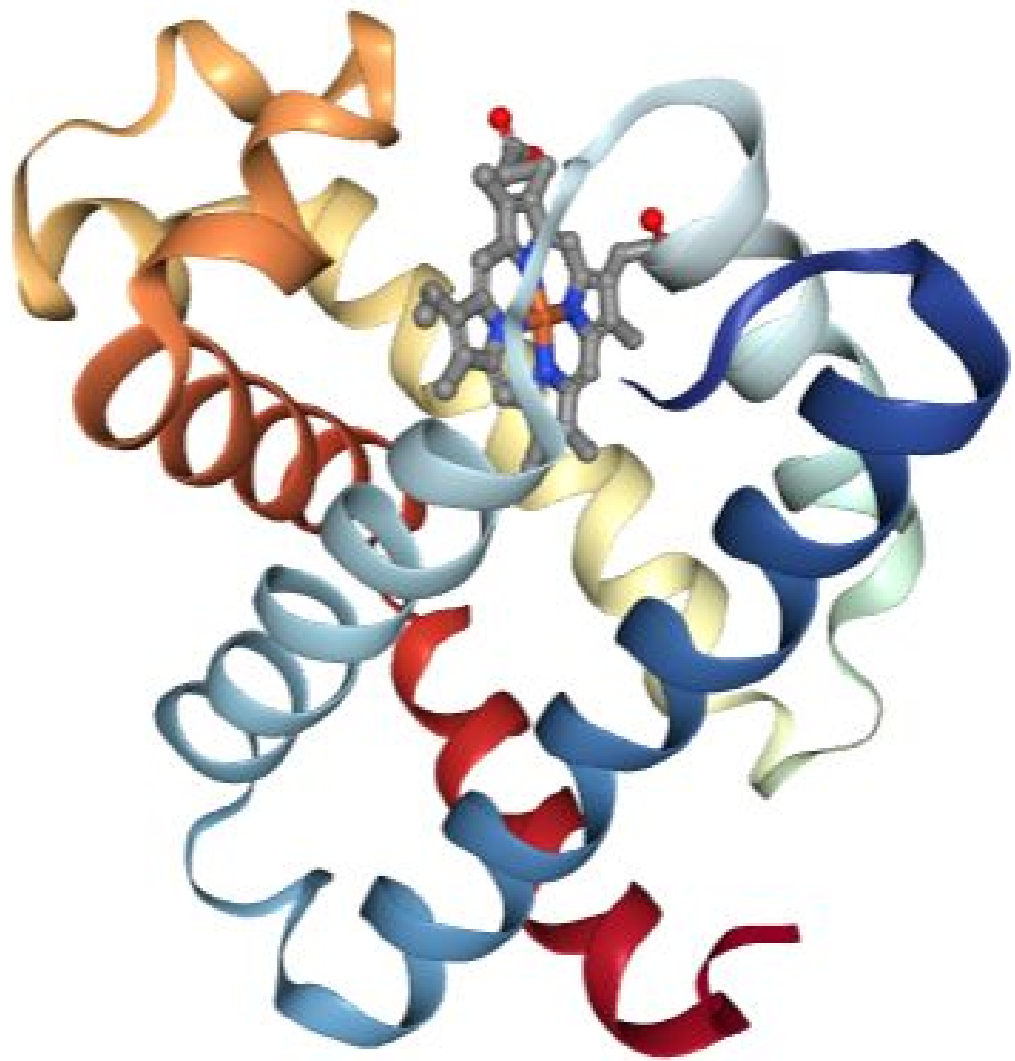
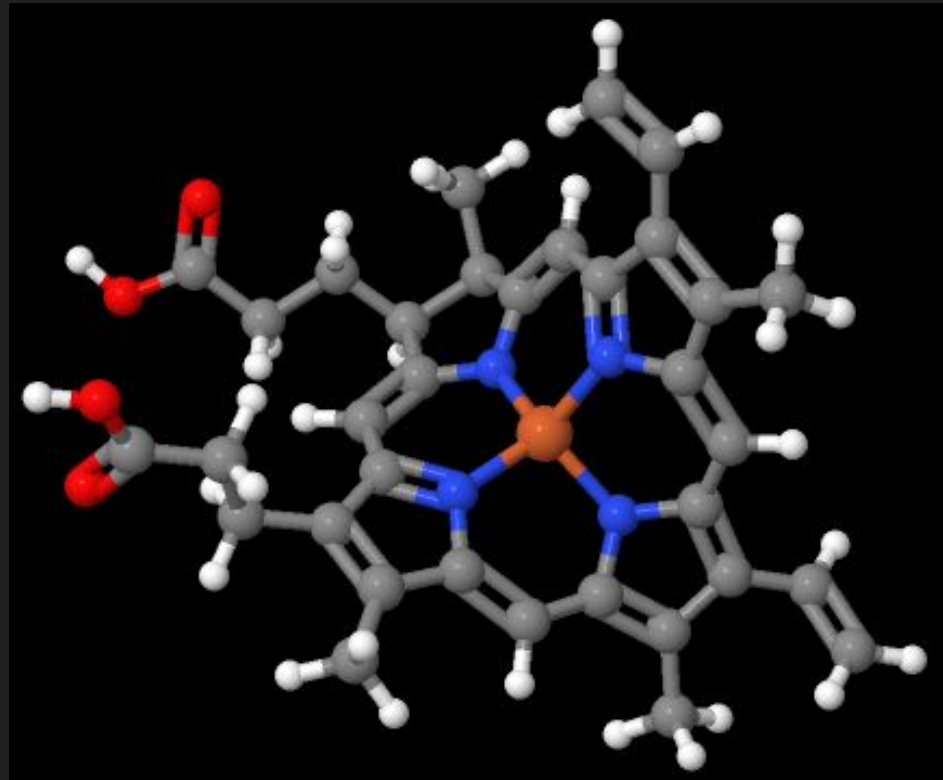
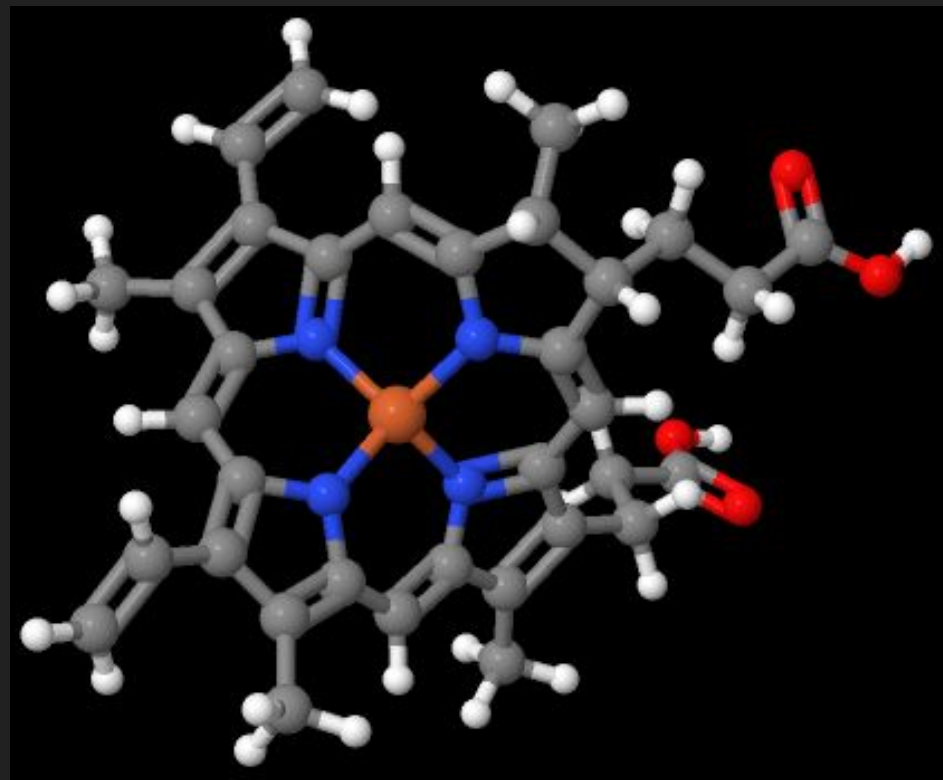


Myoglobin

By Cole, Olivia, Kendal, & Joey

Molecular & Amino Acid Structure





Molecular Structure

Protein description:

- Orange: Iron, Double-Charged
- Blue: Nitrogen bonded with Iron
- White: Oxygen, Double Bonded
- Grey: Carbon
- Red-White: Hydroxide

DNA Sequence

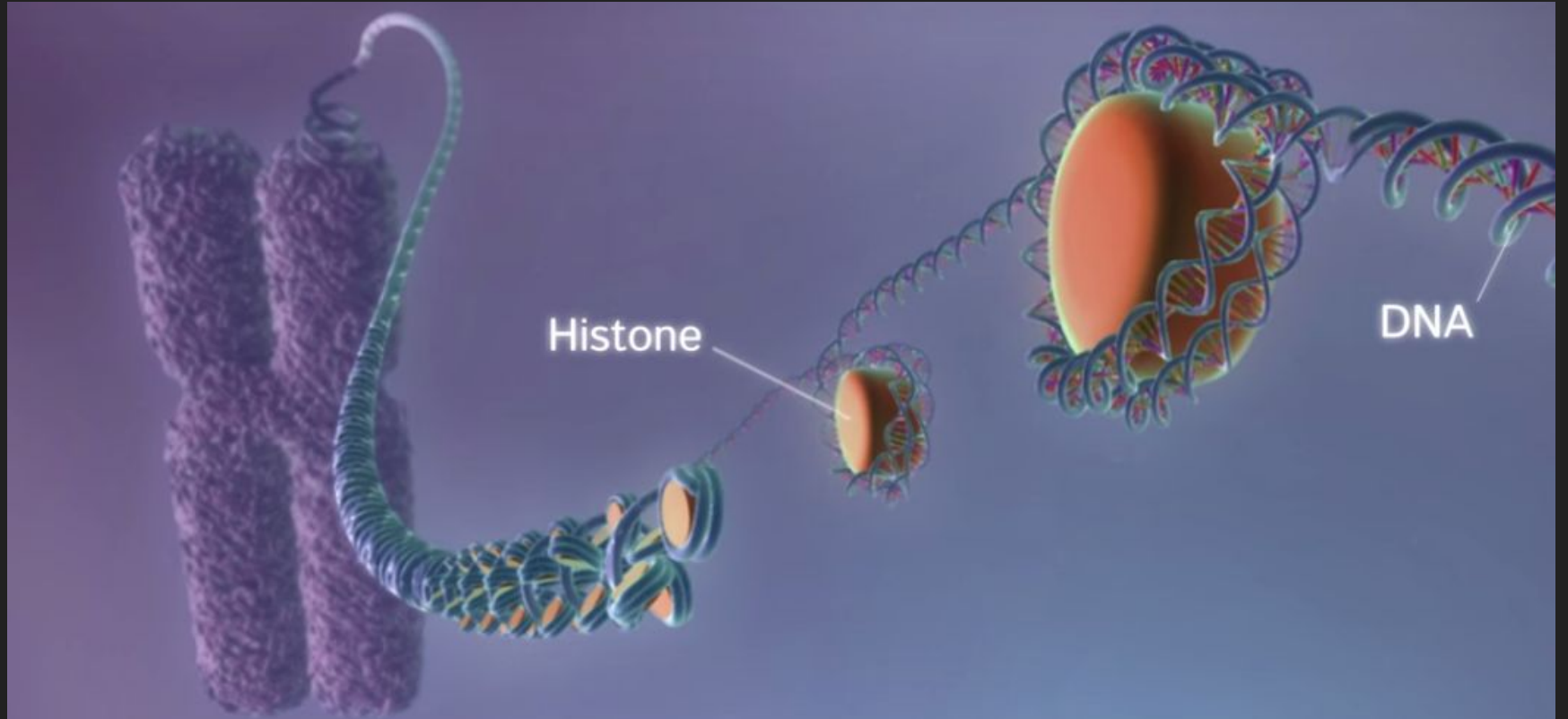
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Amino Acid Sequence

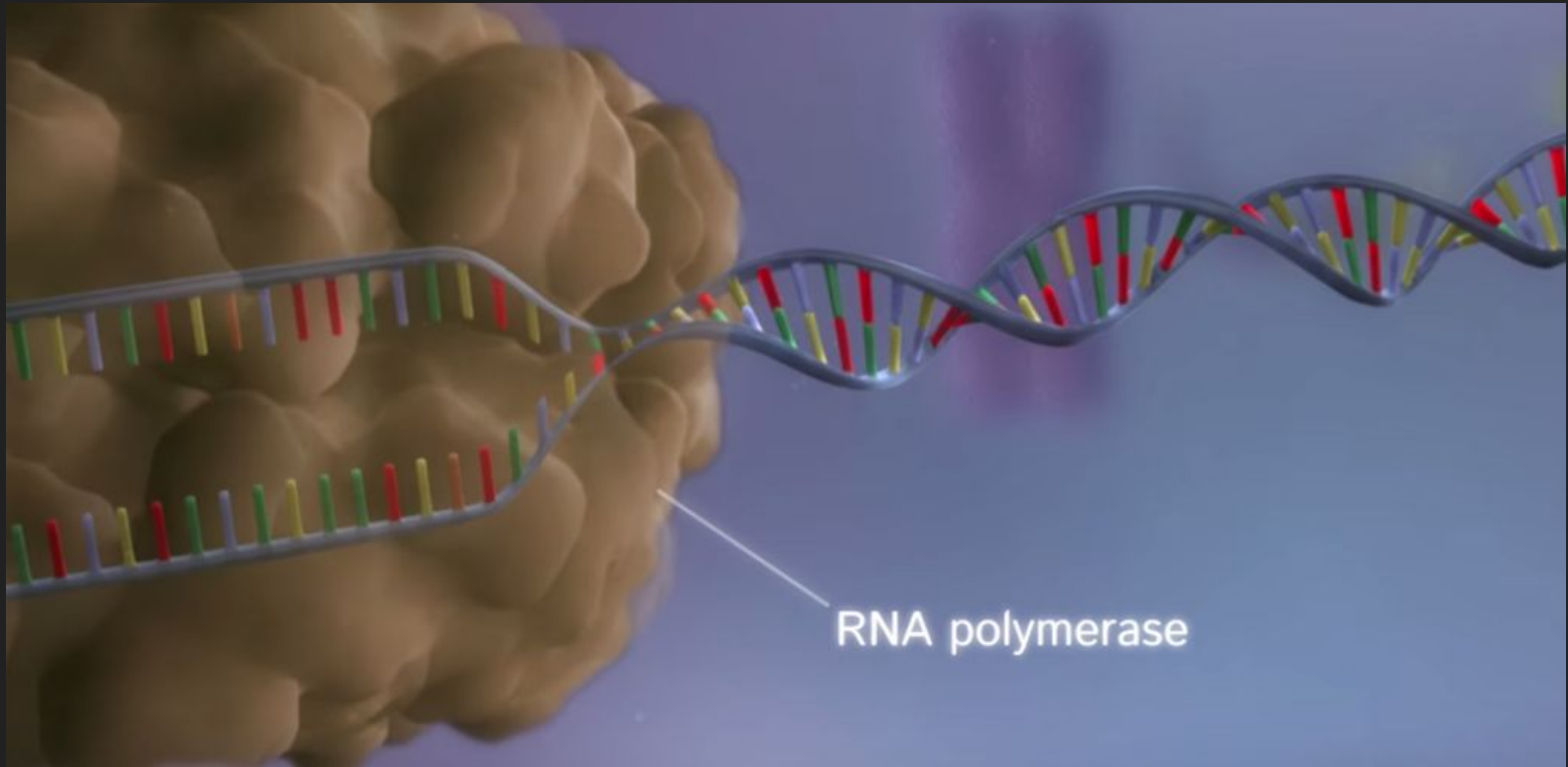
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Protein Synthesis

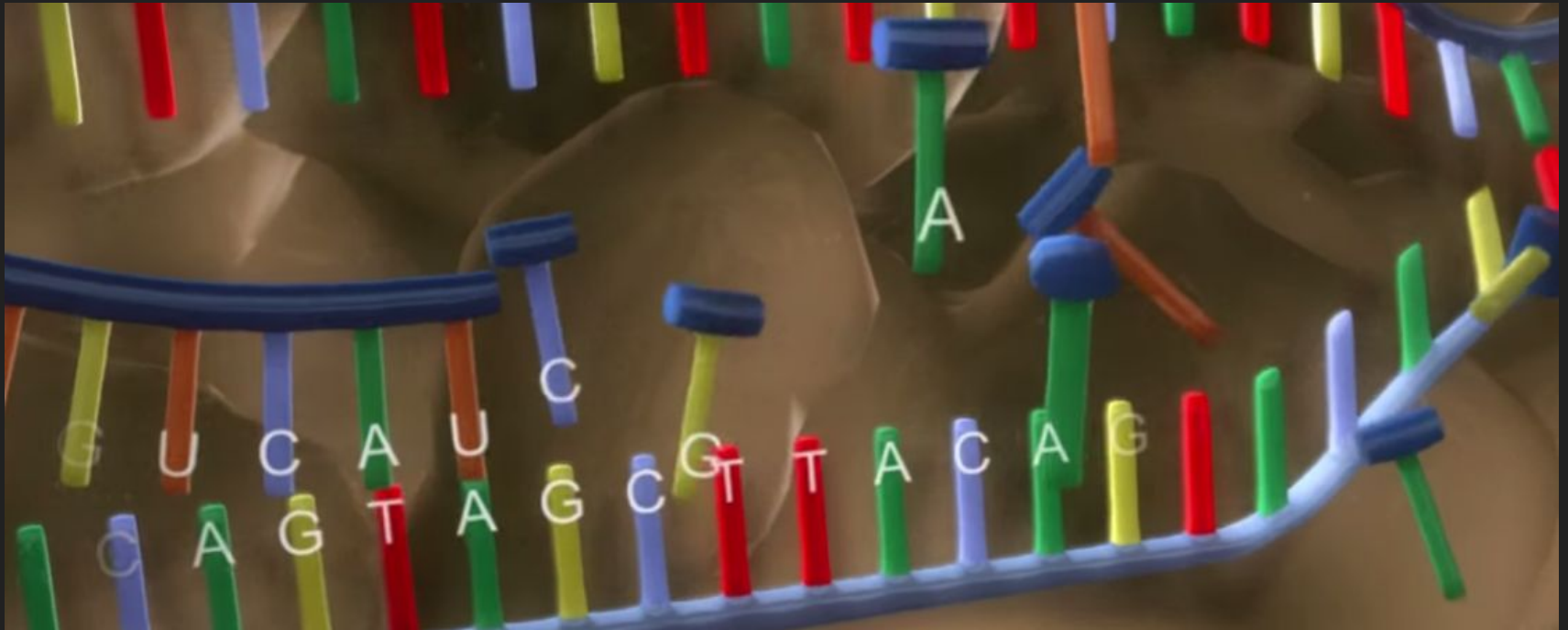
DNA > RNA > Protein



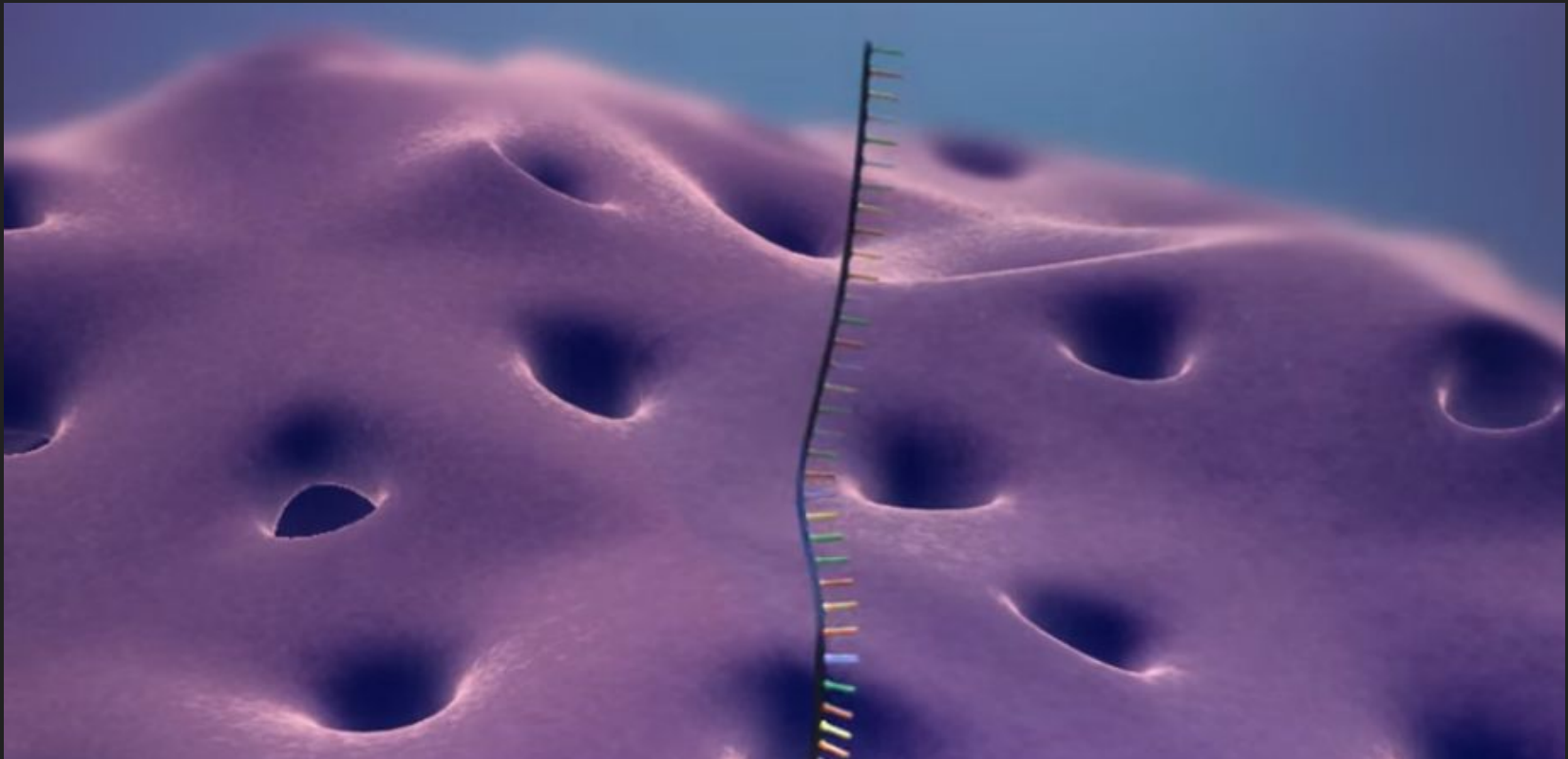
The information needed to create proteins is stored in DNA strands in the nucleus



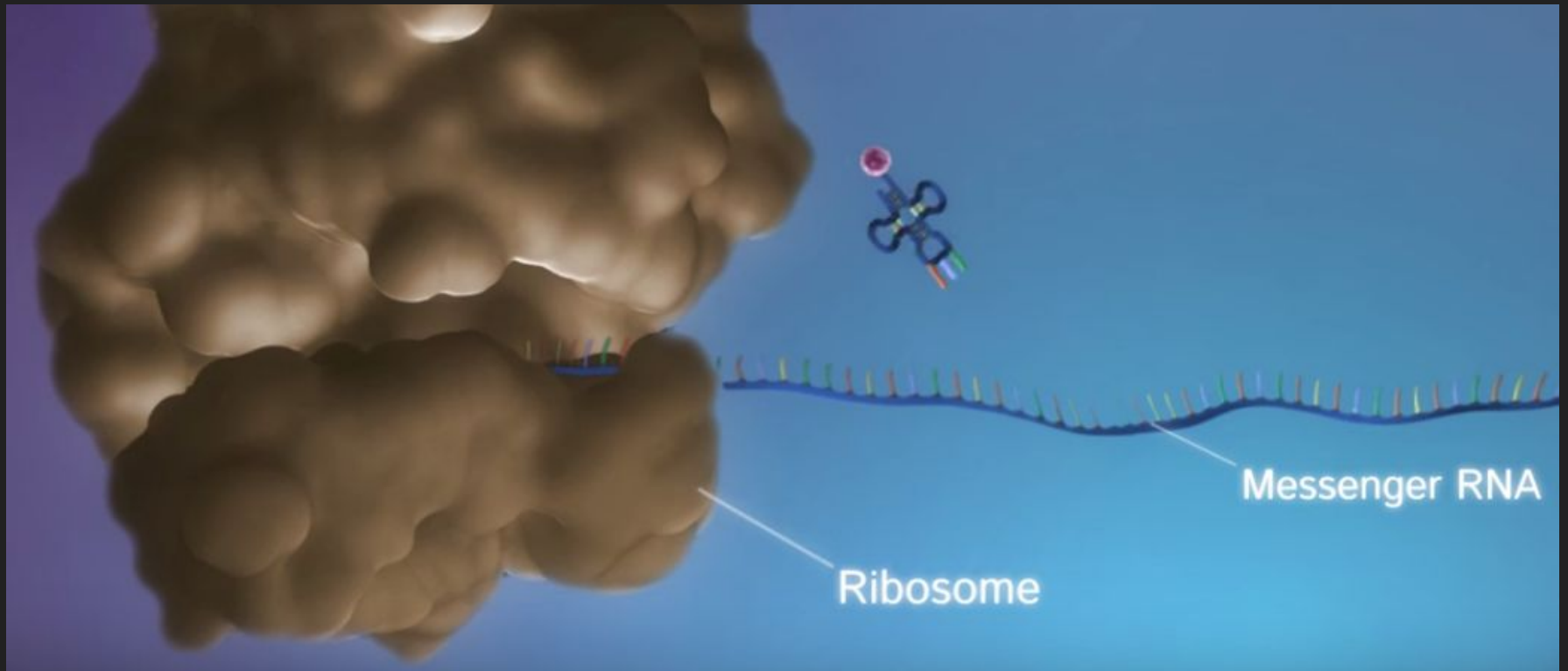
DNA polymerases split the nucleotides apart within the DNA strand being synthesized



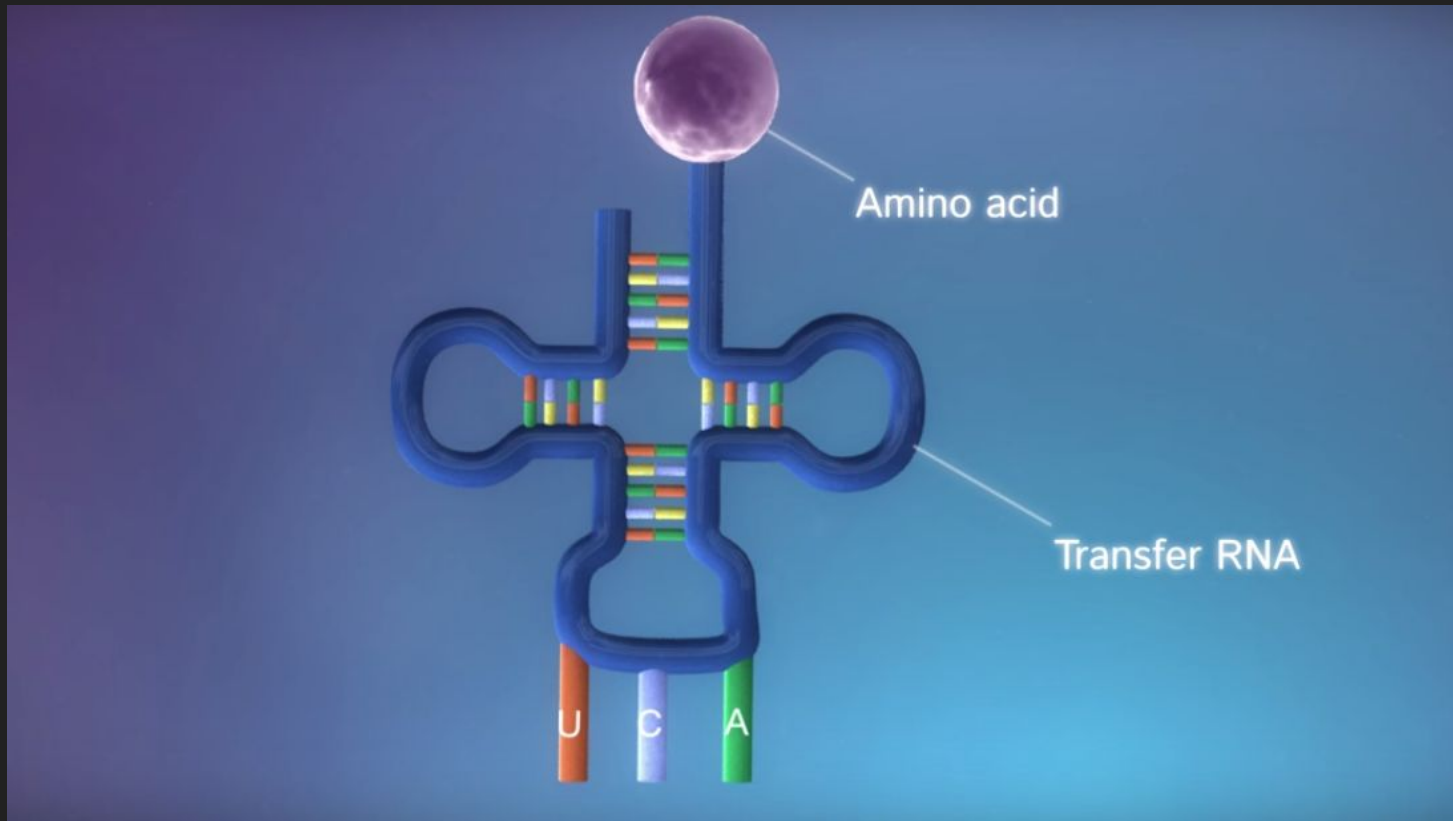
RNA bases match up with the DNA strand to form a Messenger RNA strand (mRNA)



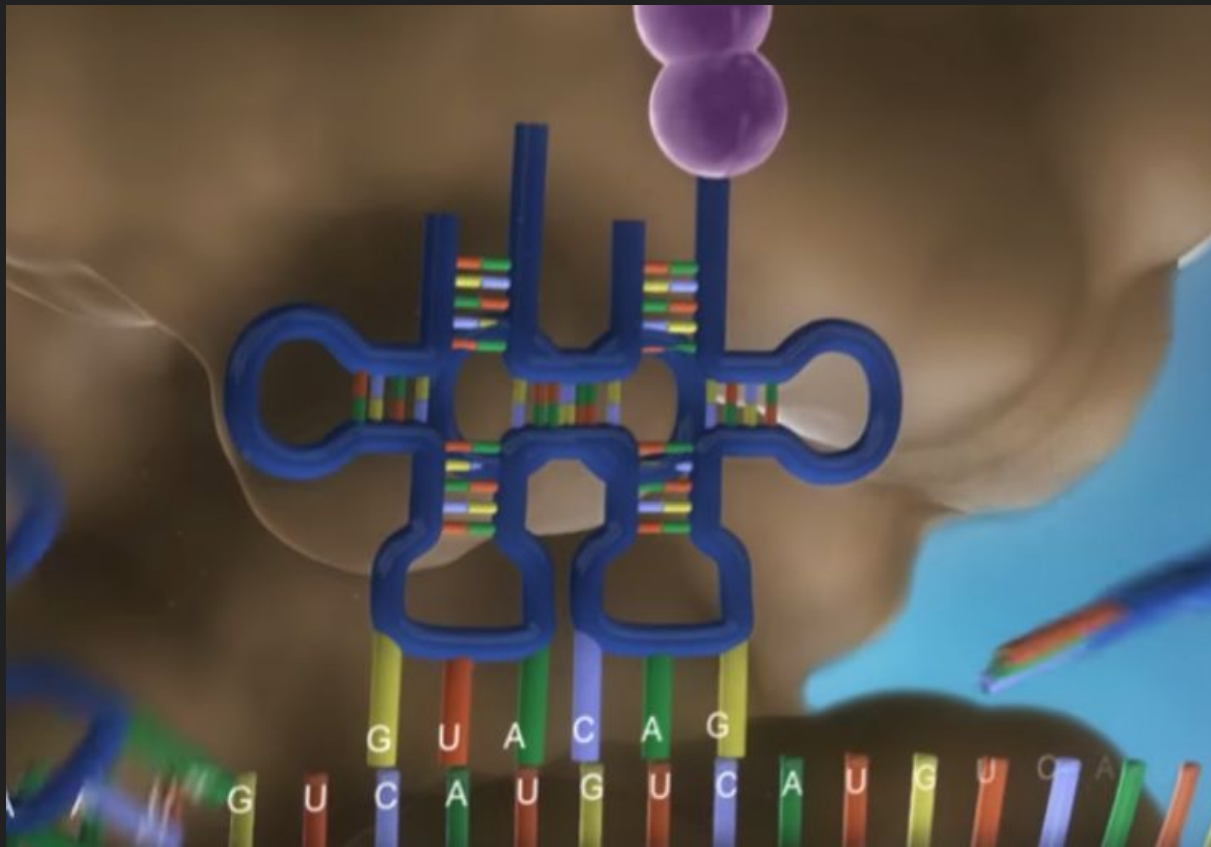
The mRNA leaves the nucleus into the cytoplasm of the cell



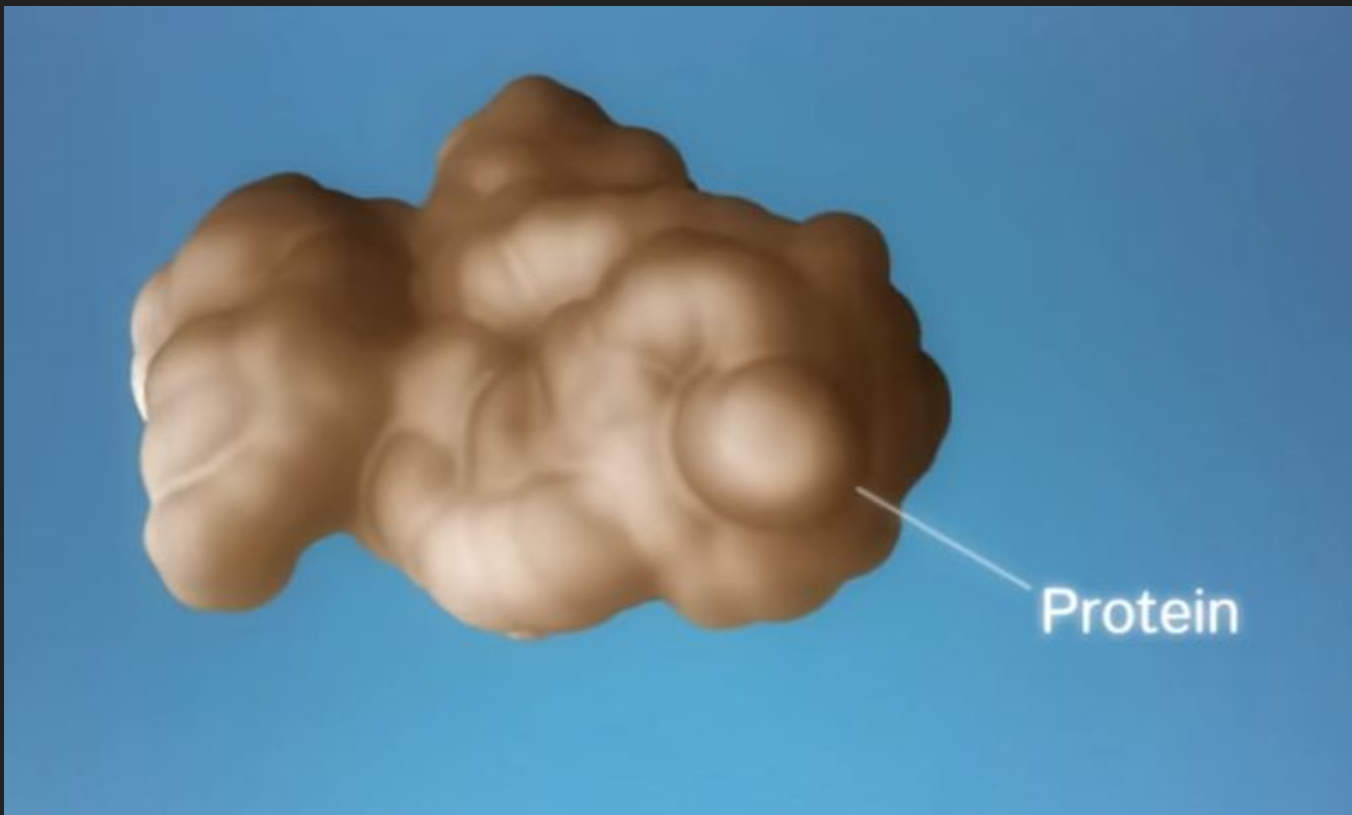
The mRNA is taken into a Ribosome to be read and synthesized into a usable protein strand



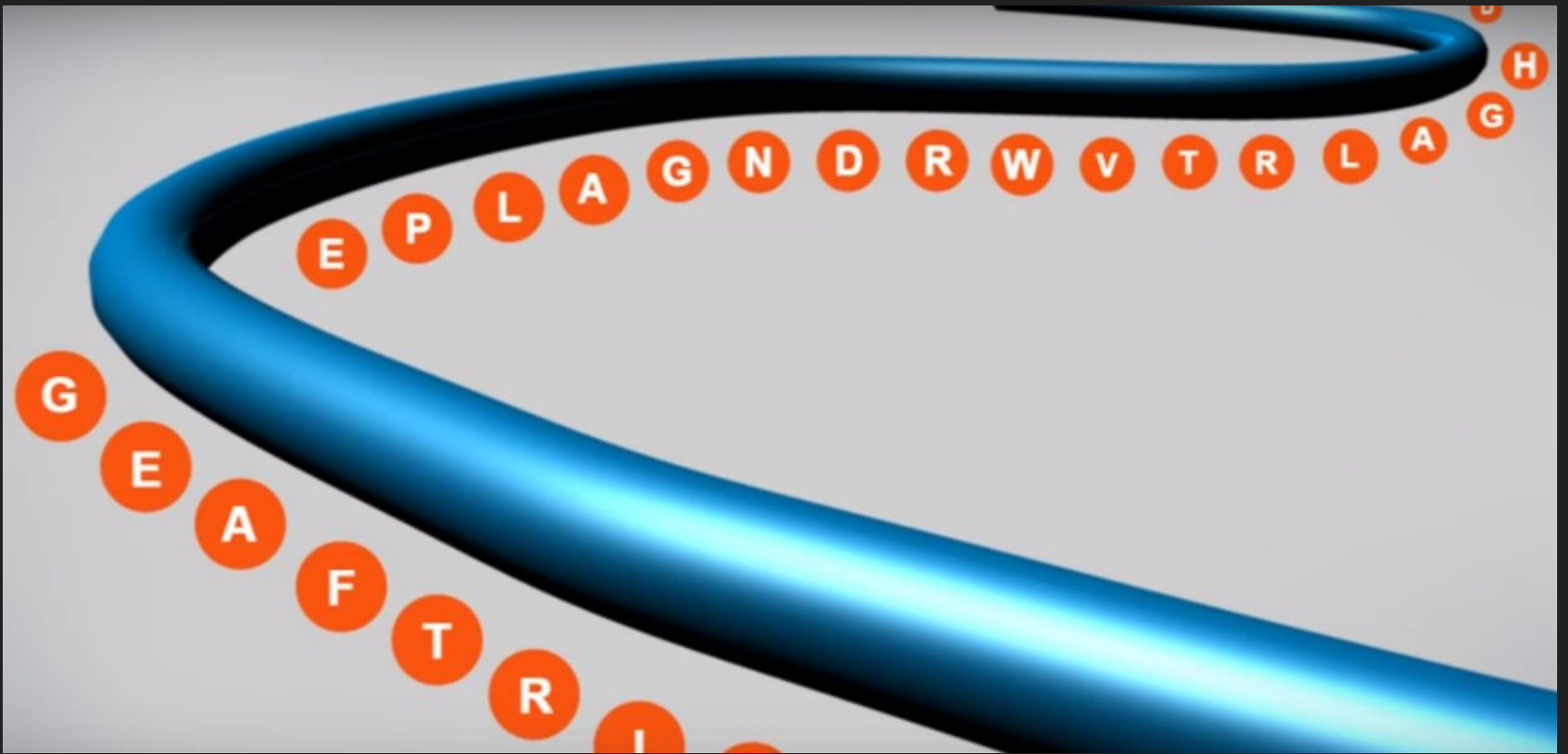
Transfer RNA (tRNA) match up a specific set of three nucleotides (Codon) to a specific Amino Acid



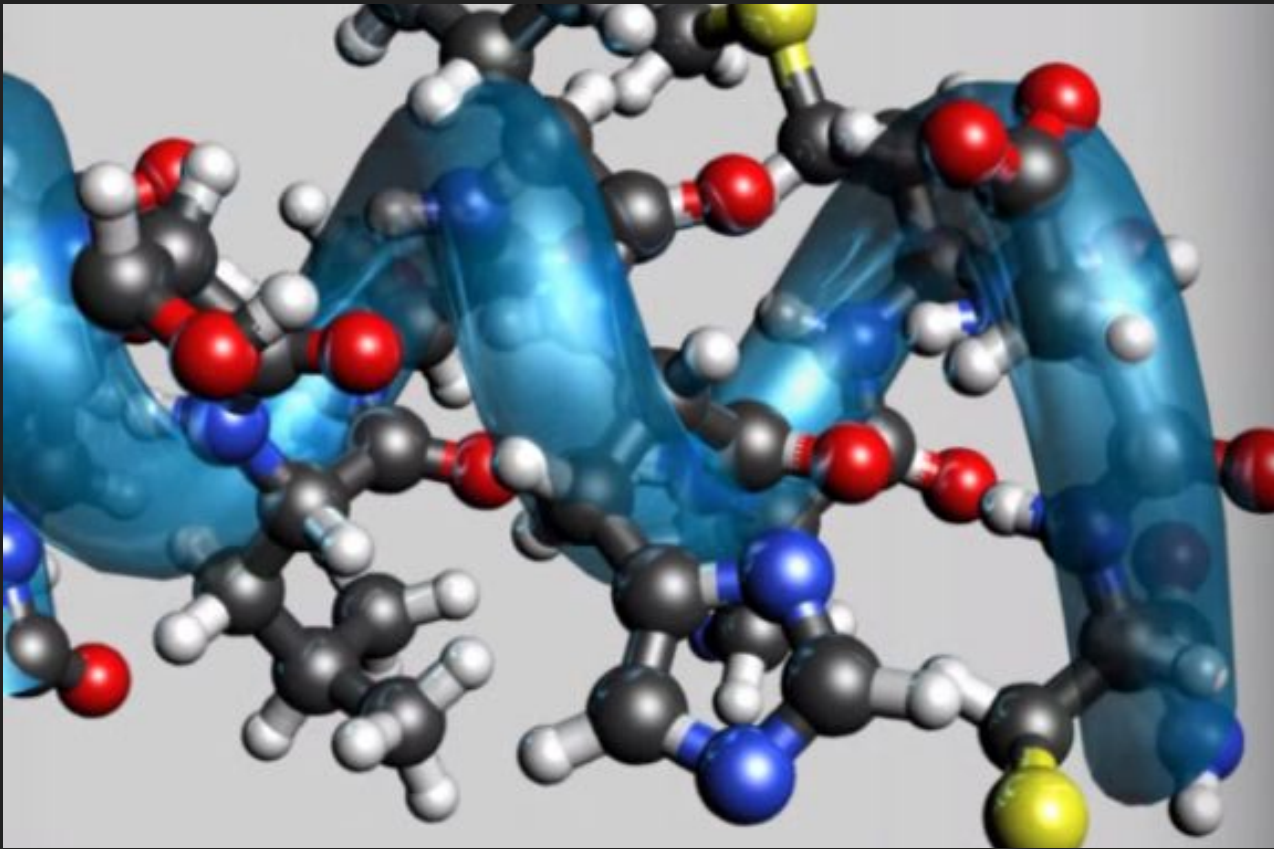
The tRNA lines up in order, releasing the corresponding Amino Acid into a chain



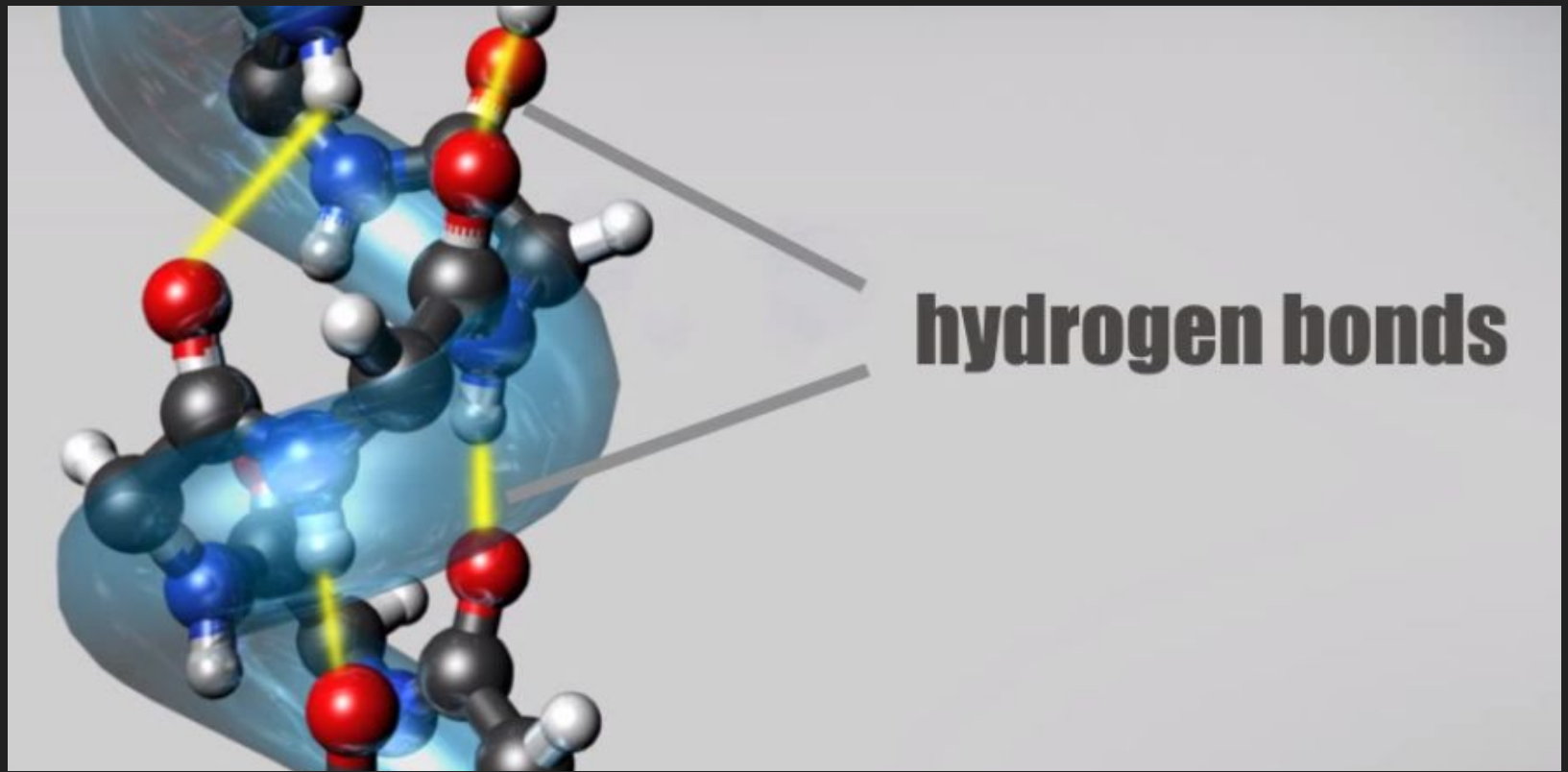
The strand of Amino Acids folds to become a useable Protein that then executes its task within the cell



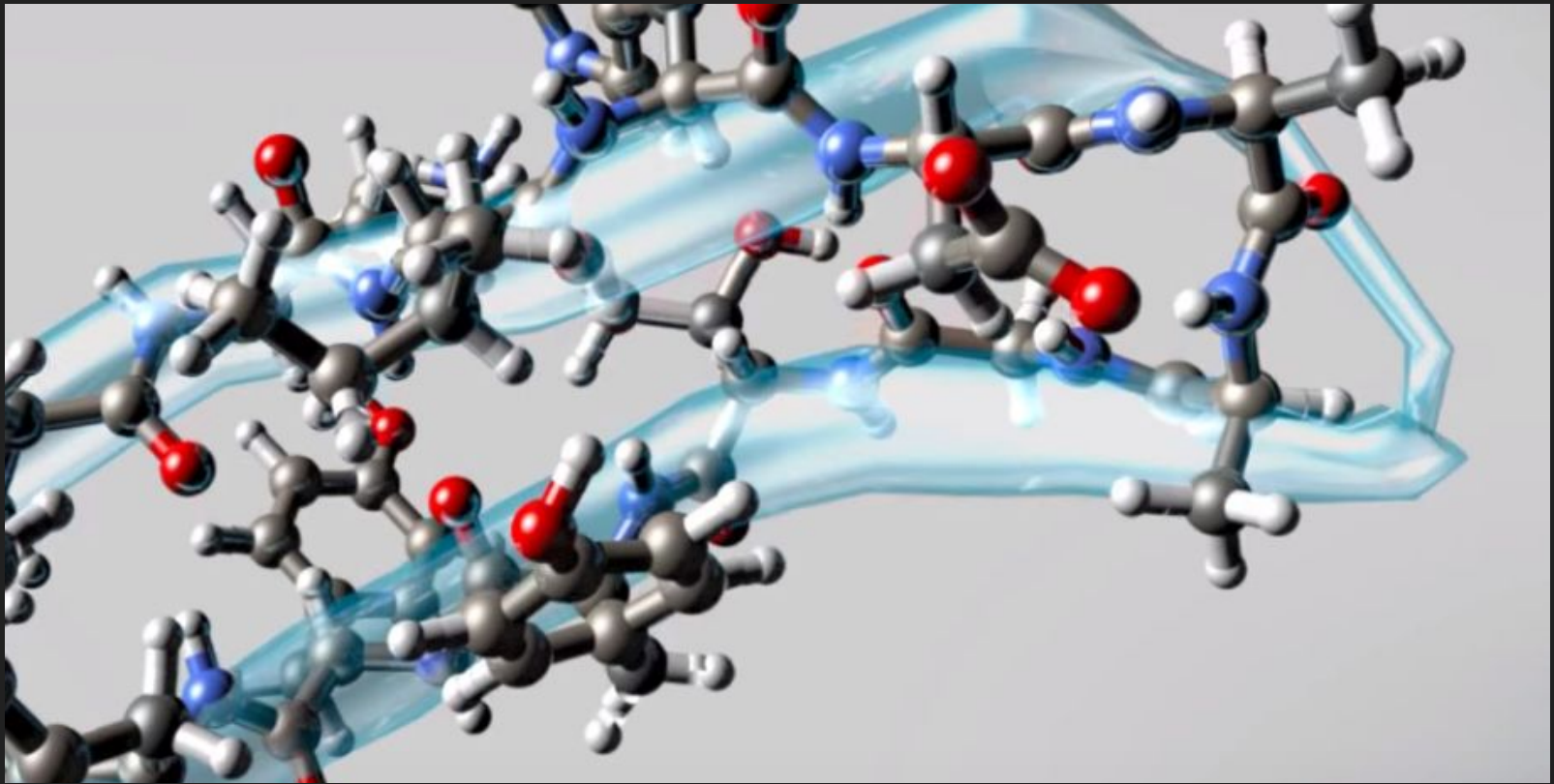
Primary Structure - A string of Amino Acids



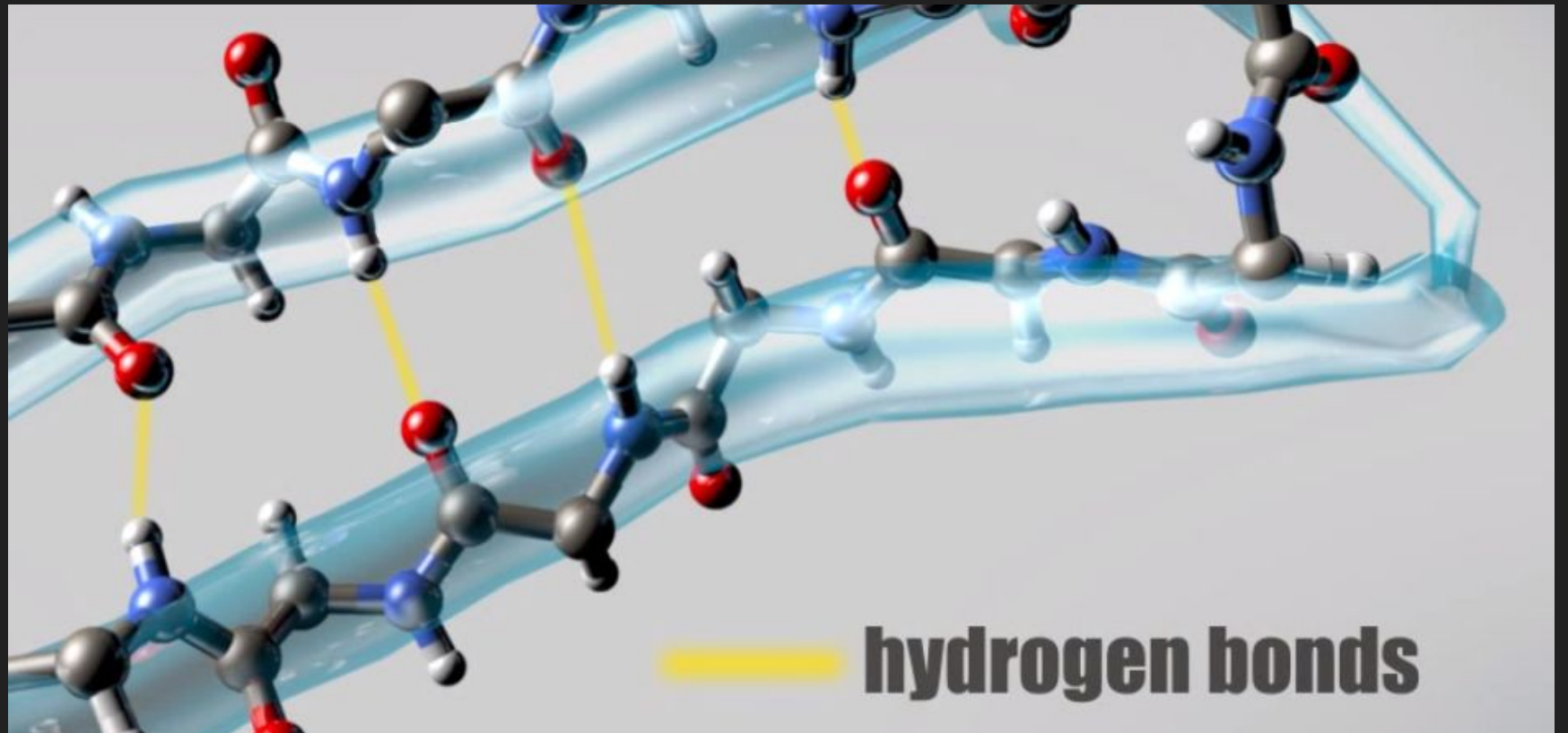
Secondary Structure - α Helix
Amino Acid chain coils around itself in a spiral



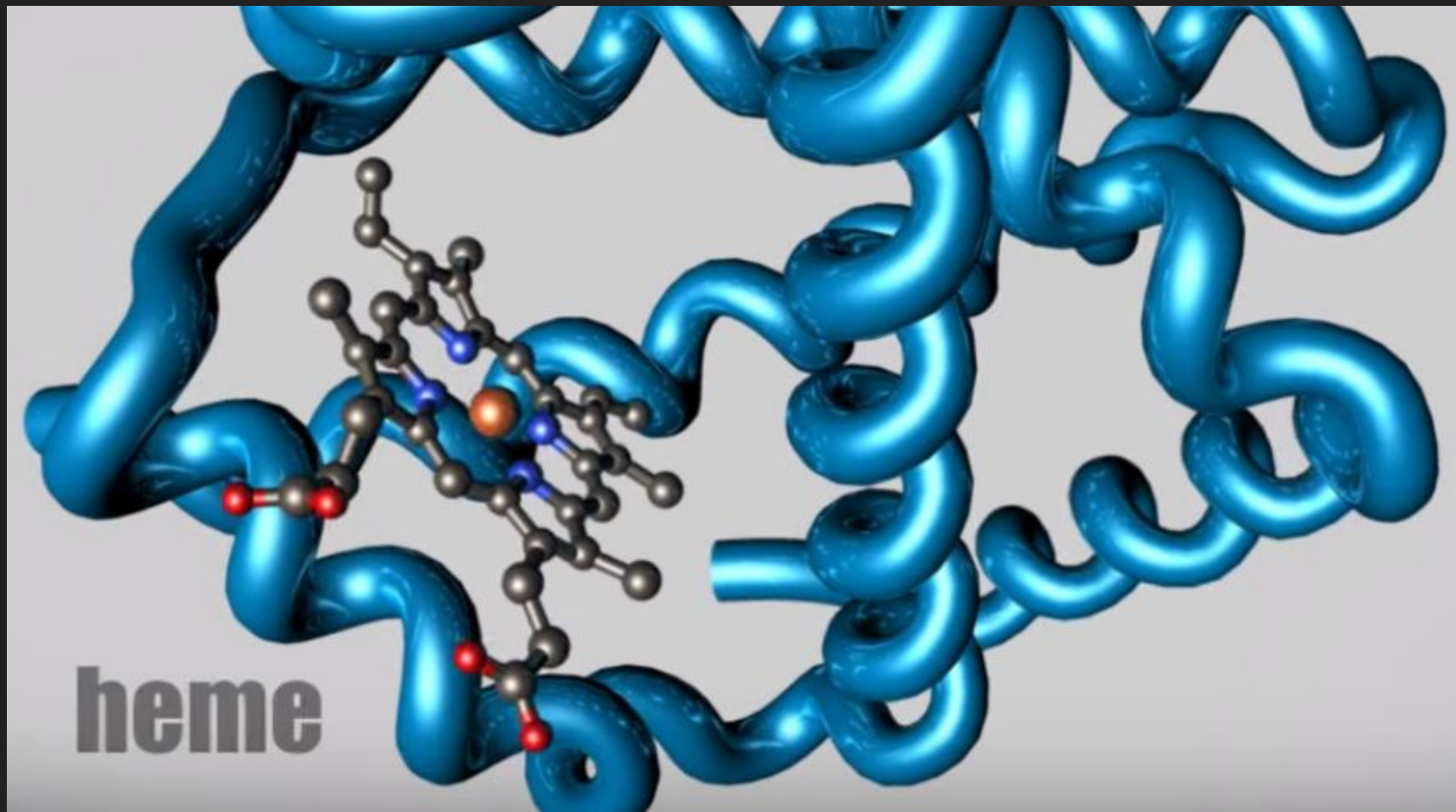
Hydrogen bonds form between the CO group of a peptide bond and the NH group of another peptide bond four sequences along the chain



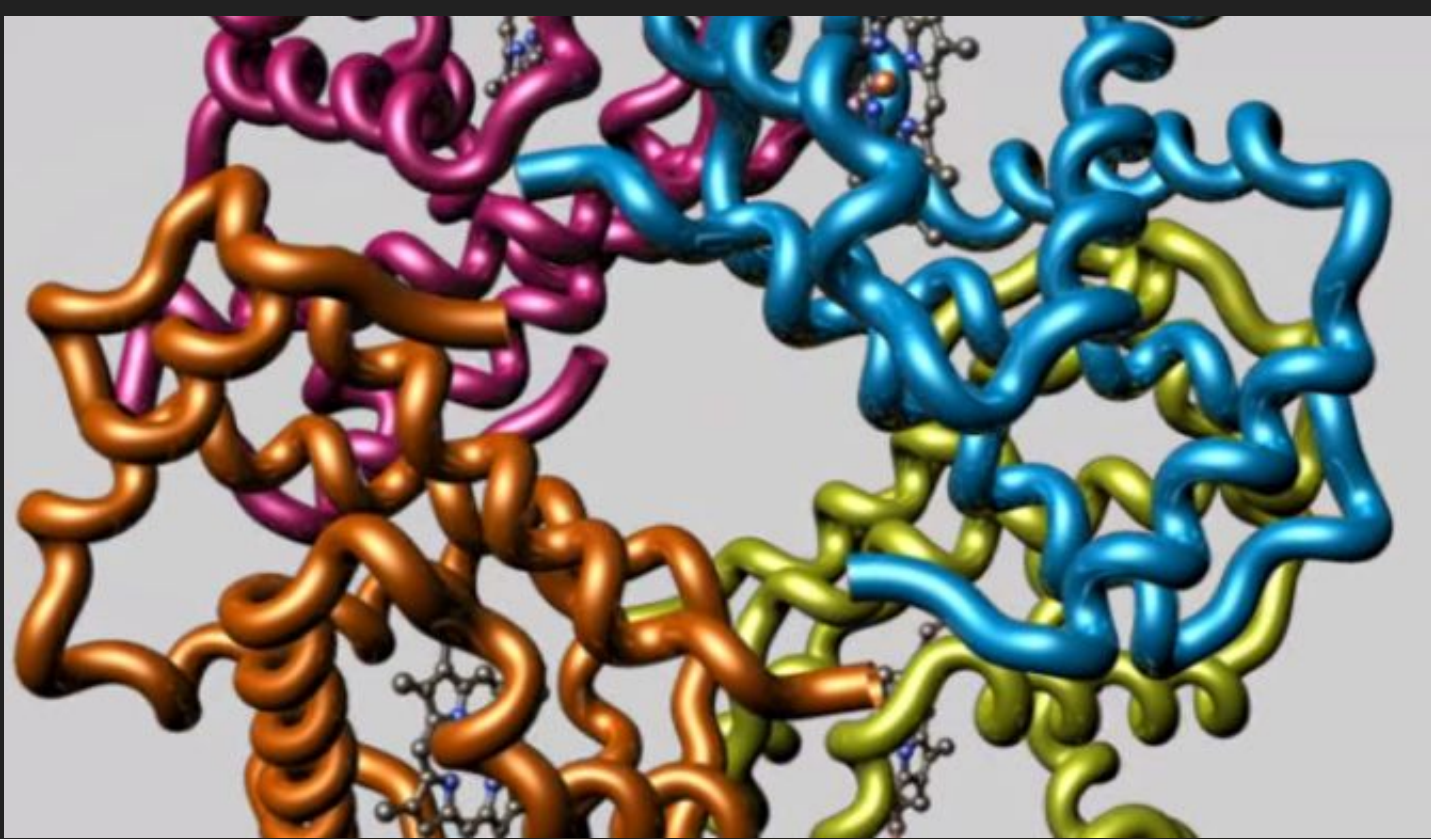
Secondary Structure - β Sheet
Amino Acids chains lay side by side



Hydrogen bonds connect the chains parallel to each other



Tertiary Structure - α Helices and β Sheets combine to form domains of hydrophobic and hydrophilic amino acids
Heme - A molecular core of the protein



Quaternary Structure - Different polypeptide chains join to form the final protein