1 | Protein Synthesis

Let's make a protein tegether!

1.1 | Before we begin, some background

Genetic Code => "nucleotide code" found in the DNA that helps make protein. There are two parts of this: translation and transcription.

- The process of **Transcription** involves taking the DNA, separating it, and copying its corresponding pairs to RNA

- The process of **Translation** involves taking the RNA and making proteins.

- *Non-coding sequence*: metadata for DNA for the processors

- *Coding sequence*: DNA content for amino-acid production

Occasionally, the RNA is what we want to end up with, so then obviously we no longer need the process of Translation.

1.2 | Transcription => converting DNA to mRNA

The process of transcription is the process by which DNA is converted to messenger RNA, a type of RNA that travels to the ribosome to create a protein. This process is dependent on the enzyme **RNA Polymerease**, which is the primary driver that handles DNA transcription.

See KBhBIO101DNATranscription

1.3 | mRNA processing => splicing mRNA

After the transcribed mRNA is finished, Eukaryotes only will need to go through one additional process called "mRNA processing" that both remove the non-protein-synthesizing Introns of the mRNA sequence, and mark the mRNA for maturity.

Notably, **Prokaryotes does not do this!** Prokarotes' coding sequence always makes a full protein, so we just start at promoter and end at terminator and make a protein!

See KBhBIO101mRNAPreprocessing

1.3.1 | Translation => RNA-directed polypeptide synthesis

And now, this is what we are here for. Now that we have a constructed and mature mRNA, let's make a protein!

See KBhBIO101Translation