

Protein Synthesis

- Involved specifically in translation
- Genome sizes
 - No explicit relationship between genome size and complexity (subjective term)
 - Genomes of different species all have independent evolutionary histories
- Mutation
 - An alteration in the DNA sequence that could lead to a different protein structure
 - A silent mutation has no impact on the protein structure or amino acid, and often occurs in the 3rd base of a codon
 - A substitution switches out one base for another base
 - An insertion puts a new/random base in the sequence
 - A deletion takes out an existing base from the sequence
 - Frameshift mutations (insertion and deletion)
 - Everything downstream of that point will have a different amino acid sequence
 - Single gene disorders
 - One single gene is mutated, resulting in the protein product being changed or missing completely
 - Germline mutations
 - Take place in the DNA of gametes
 - These are of tremendous biological importance
 - Mutations can be passed to the next generation
 - Mutation creates a new allele in a population

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