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Assignment No: 1

**Assignment 1**

1. Introns and exons are sets of nucleotides within a chromosome. As RNA matures, introns are eliminated by RNA splicing, ensuring that they are not represented in the final RNA messenger component, whereas exons continue to be covalently bound to each other in order to produce mature mRNA.
2. Introns are non-coding gene DNA sequences which are eliminated by the RNA splicing whenever the RNA component matures. Exons are the DNA sequences coding protein requiring the codons or details required for the synthesis of proteins. Introns are the non-coding sequences, which are not protein-coding. Exons are sequences of protein coding which code unique proteins. There are introns in a DNA chain of two exons. Exons are the protein coding sequences between the untraduced or two intron regions.
3. Eukaryotic genes mostly have single protein interactions, whereas prokaryotic genes have no introns and form this operon that codes for protein numbers.
4. The hydrogen association between pairs of nitrogen-based bases is one of the most important interactions for stabilizing DNA and RNA macromolecules. It fosters a link between complementary bases and maintains the structure with the double helix.
5. In molecular biology, splicing of RNA is a type of RNA processing that transforms a newly evolved precursor messenger RNA transcript into a mature messenger RNA. Introns are separated during splicing and exons are merged.
6. I couldn’t do that one! HELP
7. The condensation reaction in each ester bond forms water loss. There was an error. This connects the 3-inch carbon of a nucleotide to the 5-inch carbon of the other to generate DNA and RNA strands. It is an important structural feature of the backbone of DNA and RNA.
8. The acid side chains are neutral in pH with two amino acids. They are aspartic acid (aspartate) and glutamic acid (glu). They have side chains which are charged negatively with carboxylic acids whose pKas are too small to lose protons.
9. A peptide association is a molecular interaction between two molecules when one molecule's carboxylic group binds to the other molecule's amino group and releases a water molecule (H2O). It is a reaction of dehydration synthesis (also called a reaction of condensation) that typically occurs between amino acids.
10. The composition of the protein relies on its amino acid sequence and local, low energy chemical connections between atoms of both the backbone Polypeptide and the side chains of amino acids. The protein structure plays a vital role in its function and can no longer be functional if it changes its form on some structural basis. In the primary structure the sequence of amino acids specifies its three-dimensional nature. There was an error. The protein sequence is specifically defined by this protein, determining its structure and function such that its structure is stable only when a certain tertiary interaction is added to the sections of a protein domain.

References

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