DNA Structure

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**Research**

“The structure of the DNA was deduced first on the basis of x-ray crystallography data. X-ray crystallography is used to ascertain the structure of any crystal. The structure of the DNA is right-handed double helical structure. Sugar-phosphate and nitrogen are present in the structure. There is hydrogen bonding between the nucleotides.” (DNA Structure, 2019)

**System Check**

Deoxyribonucleic acid (DNA) is defined as the molecule which holds the biological specification of every species (Karran & Brem, 2016). This feature makes DNA unique. Instructions for an organism to develop, survive and reproduce are stored in the DNA (Erlich & Zielinski, 2017). Each DNA sequence makes a protein called a gene. Genes make only 1 percent of the DNA. DNA’s specification develops protein in two steps. First, enzymes scan the instructions stored in it. It is then transferred on an intermediate molecule known as messenger ribonucleic acid mRNA. Second, this information is then scanned by amino acids. This instruction is used to create proteins in a specific order.

**Importance**

The importance of DNA to living organisms is undebatable. Proteins are the complex molecules that are found in large number in the body. Different types of proteins perform various functions like forming the vital organs, the skin, and the bones. Additionally, proteins help to regulate the functions of the body through enzymes and hormones. By gaining knowledge regarding DNA structure, one can become a geneticist. A geneticist is a biologist who studies genetics, the science of genes, heredity, and variation of organisms. Recently, a Chinese doctor edited the genes of two babies prior to their birth in order to make them resistant to diseases after birth.

**Self Reflection**

DNA was a topic that I had little knowledge prior to the commencement of this course. However, the book provided in this course provides in-depth knowledge of the overall working of the body. Additionally, the resources other than the book also proved helpful. Youtube, particularly, is instrumental in my understanding of the DNA structure.

**References**

*DNA Structure [HD Animation]*. (2019). *YouTube*. Retrieved 30 May 2019, from https://www.youtube.com/watch?v=MCKI0PJJ4uA

Erlich, Y., & Zielinski, D. (2017). DNA Fountain enables a robust and efficient storage architecture. *Science*, *355*(6328), 950-954.

Karran, P., & Brem, R. (2016). Protein oxidation, UVA and human DNA repair. *DNA repair*, *44*, 178-185.