Nucleic Acid Encyclopedia Article

Nucleic Acid

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Nucleic Acid

Nucleic acids are macromolecules composed of polymerized nucleotides. Nucleotides, in turn, are structured of phosphoric **acid**, pentose sugars, and organic bases. Deoxyribonucleic acid (DNA) most commonly exists as a double stranded helix. The genetic information of some viruses, bacteria, and all higher organisms is encoded in DNA, and the physical basis of heredity of these organisms is dependent upon the molecular structure of DNA.

DNA is transcribed into single stranded **ribonucleic acid** (RNA), which is then translated into protein. The conversion of the genetic information of a **species** into the fabric of that organism involves several kinds of RNA, *viz*., messenger RNA (mRNA), transfer RNAs (tRNA), and ribosomal RNAs (rRNA). The genetic material of some viruses is RNA.