

Question → Explain the terms Cistron, Recon and Muton.

Ans → In the operational sense the gene can be recognized as the smallest segment of chromosome or as a section of DNA. BENZER (1962) coined the terms for these smallest segments as mentioned below.

(1) **Cistron (Unit of transmission)** - It is the functional unit within which the cistron effect operates. It represents a segment of DNA molecule and consists of a linear sequence of nucleotides which controls some cellular function. It has been found that hundreds of units of mutons and recones exist within each cistron. In other words, cistron is the smallest part of gene which transmits the characters from generation to generation.

(2) **Recon (Unit of recombination)** - It was thought that genes, were those parts of chromosome between which the crossing over may take place. Crossing over was not supposed to take place within the genes. However, on the basis of tests for recombination it has been found that crossing over not only takes place between the genes but also within the gene. One of the subunits of the gene has been called as recon.

3. **Muton (Unit of Mutation)** - It is the smallest unit which can undergo spontaneous or induced mutation. It is capable of producing different types of phenotypic expression. The mutation consists of one or more pairs of nucleotides within DNA molecule.

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