

## Key words of Gene Technology

**Microbial:** A minute life form; a microorganism, especially a bacterium that causes disease.

**Degradation:** Decomposition of a compound by stages, exhibiting well-defined intermediate products.

**Chlorinate:** To treat or combine with chlorine or a chlorine compound.

**Halogenate:** To treat or combine with a halogen.

**Aromatic:** Of, relating to, or containing one or more six-carbon rings characteristic of the benzene series and related organic groups.

**Aerobic:** Living or occurring only in the presence of oxygen

**Hydrocarbon:** Any of numerous organic compounds, such as benzene and methane, that contain only carbon and hydrogen.

**Enzyme:** Any of numerous proteins or conjugated proteins produced by living organisms and functioning as biochemical catalysts.

**Transposon:** A segment of DNA that is capable of moving to a new position within the same or another chromosome, plasmid, or cell and thereby transferring genetic properties such as resistance to antibiotics.

**Mutagenesis:** Formation or development of a mutation.

**Replicon:** A genetic element that undergoes replication as an autonomous unit.

**Prokaryote:** An organism of the kingdom Prokaryotae, constituting the bacteria and cyanobacteria, characterized by the absence of a nuclear membrane and by DNA that is not organized into chromosomes.

**Eukaryote:** A single-celled or multicellular organism whose cells contain a distinct membrane-bound nucleus.

**Phenotype:** The observable physical or biochemical characteristics of an organism, as determined by both genetic makeup and environmental influences.

**Chromosome:** 1, A threadlike linear strand of DNA and associated proteins in

the nucleus of animal and plant cells that carries the genes and functions in the transmission of hereditary information. 2, A circular strand of DNA in bacteria and cyanobacteria that contains the hereditary information necessary for cell life.

**Plasmid:** A circular, double-stranded unit of DNA that replicates within a cell independently of the chromosomal DNA. Plasmids are most often found in bacteria and are used in recombinant DNA research to transfer genes between cells.

**DNA:** A nucleic acid that carries the genetic information in the cell and is capable of self-replication and synthesis of RNA. DNA consists of two long chains of nucleotides twisted into a double helix and joined by hydrogen bonds between the complementary bases adenine and thymine or cytosine and guanine. The sequence of nucleotides determines individual hereditary characteristics.

**RNA:** A polymeric constituent of all living cells and many viruses, consisting of a long, usually single-stranded chain of alternating phosphate and ribose units with the bases adenine, guanine, cytosine, and uracil bonded to the ribose. The structure and base sequence of RNA are determinants of protein synthesis and the transmission of genetic information.

**Clone:** 1, A group of genetically identical cells descended from a single common ancestor, such as a bacterial colony whose members arose from a single original cell as a result of binary fission. 2, An organism descended asexually from a single ancestor, such as a plant produced by layering or a polyp produced by budding.

**In vitro:** In an artificial environment outside the living organism.

**Nucleotide:** Any of various compounds consisting of a nucleoside combined with a phosphate group and forming the basic constituent of DNA and RNA.

**Operon:** A unit of gene activity consisting of a sequence of genetic material that functions in a coordinated manner by means of an operator, a promoter, and one or more structural genes.

**Catabolic:** The metabolic breakdown of complex molecules into simpler ones, often resulting in a release of energy.