

Glossary

Antibodies

Blood proteins that serve as the basis of the immune system in mammals. Antibodies combine specifically with corresponding foreign substances called antigens (see antigen).

Antigen

Molecule (generally a protein) which, when introduced into the body, stimulates the production of antibodies that react specifically with this antigen.

Bacterium

Very common unicellular organism that measures about one micron. Some bacteria are pathogenic, but the majority are useful to man for a large number of natural processes.

Biosynthesis

The production of a chemical substance by a living organism.

Cellulase

Enzyme that decomposes cellulose into glucose.

Cellulose

Polysaccharide made up of glucose units that are joined together. Cellulose makes up the greatest proportion of the walls of plant cells.

Clone

Group of cells that are all derived from a single initial cell through successive divisions.

DNA

Deoxyribonucleic acid present in the nucleus of the cells. It contains the chromosomes and is the basis of heredity.

Enzyme

Protein molecule that acts as a catalyser (accelerator) of biochemical reactions that take place within living organisms.

Fermentation

Process that provides energy through the (incomplete) degradation of organic materials in the absence of oxygen.

Gene

Portion of a DNA molecule that encodes the amino acid chain forming a protein.

Genetic code

Hereditary information used to assemble the basic fundamental constituents of living beings (proteins) and control basic living reactions.

Genetic engineering

Biotechnology used to change the hereditary information of a living cell in order to make it accomplish different functions. Genetic engineering is used for cellular "reprogramming."

Genetic manipulation

The process of adding a gene to a cell in order to provide it with a new characteristic. To do this, it is necessary to remove the desired gene from an animal cell and transfer it to a bacterium.

Genome (or genetic inheritance)

Set of chromosomes in a cell.

Hemoglobin

Protein molecule containing iron that has the ability to capture oxygen in a reversible manner and thus transport it throughout the organism. Hemoglobin is contained in the red blood cells.

Hormone

Substance secreted by an internal secretion or endocrine gland; it is emptied into the blood and is carried to the tissues, where it carries out a specific action.

Hybrid

A new variety of plant or animal that results from crossing two existing varieties.

Hybridation

Reaction consisting of realigning two complementary strands of DNA.

Hybridoma

A hybrid cell formed by the fusion of a lymphocyte and a myeloma (or cancerous) cell. Hybridomas are used mainly for the production of monoclonal antibodies.

In vitro

A biological experiment that takes place outside a living organism.

Interferon

Natural anti-viral (and probably anti-tumour) protein secreted by the attacked cells.

Lymphocyte

Small white globule that produces antibodies (lymphocyte B) or plays a role in the amplification of immune mechanisms (lymphocyte T).

Metabolism

Chemical reactions that take place in a cell and, by extension, the reactions that take place in a living organism to produce energy.

Molecules

Combinations of atoms joined together by chemical bonds. The average size of a molecule is 10 times greater than that of an atom.

Monoclonal antibodies

Very specific antibodies obtained by hybrid cellular strains called hybridomas (see hybridoma).

Moulds

Microscopic fungi visible to the naked eye.

Mutation

Alteration of DNA structures by a physical or chemical agent. Anything that can produce a mutation is said to be a mutagen. Alterations produced by mutations are hereditary.