

Glossary

Allergy

Specific change in immunity in terms of pathogenic hypersensitivity. Allergies are directed against foreign substances (allergens) affecting the body.

Allogen

Originating from a genetically unrelated individual of the same species.

Alveolae

Air sacs in the lungs, located at the end of the bronchial tree in the pulmonary tissue on the bronchioles.

Autologous

Belonging to the same individual.

Antigens

Molecules bound by a specific [antibody](#). Antibodies are produced by the immune system upon first contact of the body with the antigen recognized as “foreign.”

Antibodies

Proteins with a specific binding site for [antigens](#). Antibodies are usually dissolved in the blood, but may also be bound to membranes. Upon contact of the body with antigens antibodies are synthesized in a complex immune reaction.

Bronchoalveolar lavage

Irrigation of the lungs with physiological salt solution to obtain lung fluid with its protein and cell material.

Chemokines

Chemotactically acting [cytokines](#), which can be secreted by many cell types. Chemokines can attract and activate, e.g., leukocytes.

Cytokines

Proteins produced and released by immune cells, but also by non-immunological cells. The cytokines serve as “messenger substances” for the immune cells, they control and coordinate the defense of pathogens. Cytokines are partly responsible for the successful result of an immune reaction.

DNA

Deoxyribonucleic acid, chemical name of the carrier of hereditary information. It consists of the bases adenine, thymine, cytosine and guanine, which are

connected by a sugar-phosphate backbone. The linear sequence of the bases is the “sequence” of the DNA. The DNA’s spatial structure is that of a double helix.

Emphysema

Also: pulmonary emphysema, abnormally increased air volume of the lungs due to overdistension or swelling, which can cause alveoli to burst.

Epithelium

Group of cells covering the inner or outer body surfaces.

Gene

A gene is a section of the DNA coding for a particular protein and also containing regulatory elements.

Genome

Totality of the genetic material of a cell or an individual.

Granulocytes

One of three types of white blood cells. Granulocytes – like monocytes – are produced in the bone marrow.

Histamine

Messenger substance released after contact with allergens and IgE [antibodies](#). It is responsible for symptoms such as itching or rhinitis.

Histones

Proteins round which the thread of hereditary material – the [DNA](#) – is wound.

Hybridoma

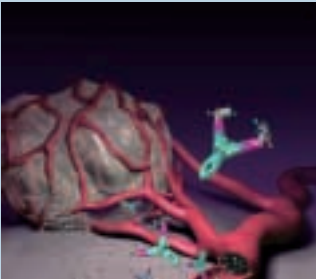
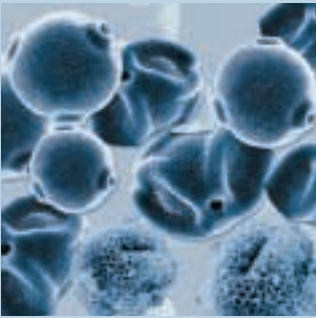
Cell created by the fusion of two cell populations, which produces monoclonal antibodies and is capable of proliferating without any time limit.

IgE

Abbreviation of immunoglobulin E. Class of antibodies responsible for mediating immediate allergic reactions. They are found in higher concentrations in the blood of allergic patients and are suitable for diagnosis (e.g. RAST).

Immunoglobulins (Ig)

[Proteins](#) usually acting as [antibodies](#). They are divided up into different classes, depending on their shape and function (e.g. IgM, IgE).



Immunomodulation

Manipulation of the immune system.

Interferons

Cell glycoproteins produced especially by leukocytes and fibroblasts upon infection with a virus. They have unspecifically antiviral properties. Human interferons for medical purposes can already be produced by genetic engineering.

Lipids

Fats: mixed group of biomolecules, which are of importance for the building of cell walls, energy storage and nutrition and for the communication between cells.

Liposomes

Inclusion in L. can transport drugs to their exact place of action, thereby improving their effect.

Lymphocytes

One of three groups of white blood cells.

Macrophages

Eater cells. Macrophages are important mediators of immune defense and can eliminate microorganisms and cell components after ingestion (so-called phagocytosis).

Nucleosome

Complex of DNA and histones, the first packaging stage of DNA.

PCR

Polymerase chain reaction. Method for the replication (amplification) of small quantities of a DNA for diagnostic, analytical or forensic purposes.

Proliferation

Cell division, cell growth.

Protein

Molecule produced by the connection of numerous amino acids by peptide binding. Proteins are of decisive significance, e.g., as structural proteins or as biocatalysts (enzymes) in the metabolism of living cells.

RNA (ribonucleic acid)

Nucleic acid molecules consisting of a sugar-phosphate chain, to which the bases adenine, uracil, guanine and cytosine are bound. RNAs transfer the

hereditary information from the DNA to proteins (translation).

Sequencing

1. Sequencing of nucleic acids: process for the determination of the sequence of bases.
2. Sequencing of peptides/proteins: process for the determination of the amino acid sequence.

Sputum

Expectoration; secretions of the bronchi; analysis of the sputum helps diagnose respiratory diseases.

T helper cells (T lymphocytes)

Cell type partly responsible for the cellular immune response.

Transcription

Transfer of the genetic code from the double-stranded DNA to a single RNA strand with the involvement of numerous enzymes (transcriptases); first step of gene expression.

Tumor necrosis factor (TNF)

Endogenous messenger substance of the cells of the immune system, a cytokine.

Tumor virus

Virus interfering with the growth control of a cell and resulting in uncontrolled proliferation of the cell, e.g. the Epstein-Barr virus, which triggers a fast growing tumor (Burkitt lymphoma).

Virus

Non-cellular biological unit; consists of nucleic acids (DNA or RNA) not bound to chromosomes in a protective envelope of proteins, lipids etc. Viruses can only reproduce in a host cell using the enzymes of the host.