

## COMPONENTS OF THE IMMUNE SYSTEM

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The aim of this study was to review the components of the immune system. A bibliographic review of the narrative type was performed from the databases SciELO, PubMed and Google Scholar, using the keywords: immune system, lymphoid organs, and leukocytes. It has been observed that the immune system is a complex network of cells, tissues, and molecules that work together to protect the body against infections and diseases. Leukocytes or white blood cells are the main cells of the immune system and include neutrophils, basophils, eosinophils, monocytes, and lymphocytes (T and B). Each type of them plays specific roles in the immune response. T lymphocytes are responsible for coordinating the cellular immune response, recognizing, and destroying virus-infected cells, for example. B lymphocytes produce antibodies that neutralize bacteria, viruses, and other foreign substances in the body. Antibodies or immunoglobulins are proteins that recognize and bind to antigens, such as viruses and bacteria, to mark them for destruction. Macrophages and monocytes are phagocytic cells that engulf and digest microorganisms and cellular debris. And neutrophils, eosinophils, and basophils are leukocytes aimed at immunity from bacteria and acute inflammation, extracellular parasites, and allergies, respectively. In addition to leukocytes, other cells are also involved in immunity. For example, dendritic cells act as messengers between T and B lymphocytes, presenting antigens to these cells to initiate the immune response, known as Antigen-Presenting Cells. Natural Killer (NK) cells, a type of lymphocyte differentiated, destroy virus-infected cells and cancer cells in an innate immune response. Among the organs, the lymphatic system includes lymph nodes, spleen, and tonsils, which house immune cells and filter foreign substances from the body. There are also central lymphoid organs, such as the bone marrow and thymus, which are essential for the development and maturation of immune cells, particularly lymphocytes. Among the molecules, cytokines are important signaling agents that regulate the immune response, coordinating the activity of the cells involved. And the complement system, which consists of a group of proteins that assists in the destruction of pathogens, promoting inflammation and phagocytosis, through the classical, alternative and lectin pathways. And finally, it is also important to remember the physical barriers, such as the skin and mucous membranes that act as the first line of defense, preventing the entry of pathogens into the body. It was concluded that together, these components of the immune system work in a coordinated manner to identify, fight and eliminate health threats, protecting the body against infections and maintaining the balance of the organism.

**Keywords:** Innate Immune Response; Components; Lymphoid organs; Barriers.

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