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8. Human immune system includes (i) lymphoid organs (ii) immune cells (iii) soluble molecules like antibodies (iv) lymphoid tissues.

Lymphoid organs These are the organs where origin and/or maturation and proliferation of lymphocytes occur. They are as following two types:

(a) Primary lymphoid organs are the sites where lymphocytes differentiate and mature to become antigen-sensitive, e.g. bone marrow and thymus.

In bone marrow, all blood cells including lymphocytes are produced and B-lymphocytes mature.

Thymus is a lobed organ, located near the heart and beneath the breastbone.

It reduces as the age increases. T-lymphocytes develop and mature in thymus.

(b) Secondary lymphoid organs provide the sites where lymphocytes interact with the antigen and proliferate to become effector cells, e.g. spleen, lymph nodes, tonsils, Peycr's patches of small intestine and appendix.

Spleen is a large, bean-shaped organ which contains lymphocytes and phagocytes.

It acts as a filter to trap blood-borne microbes and contain a large pool of erythrocytes.

Lymph nodes are small solid structures along the lymphatic system. Their function is to trap microorganisms or other antigens that enter the lymph and tissue fluid. Mucosal Associated Lymphoid Tissue (MALT) is formed of the masses of lymphoid tissue, lining the mucosa of respiratory, digestive and urogenital tracts. About 50% of lymphoid tissue in human body is formed by MALT.