



UNIT FOUR STUDENT GLOSSARY

Antigens: substances that prompt the generation of antibodies and can cause an immune response

Autoimmunity: when the immune system attacks the body's own, healthy tissues

B Lymphocyte: another name for a B cell; white blood cells that enforce nonspecific and specific immunity (adaptive immunity); responsible for the generation of antibodies, detects an antigen from a foreign (environmental) source

Cytotoxic T cells: T cells that can poke holes in the membranes of foreign cells, secreting toxins that dissolve the foreign cells upon recognition of the corresponding antigen

Helper T cell: activated by binding to an antigen/MHC protein complex on the surface of a macrophage or other antigen-presenting cell. A type of T cell that provides help to other cells in the immune response by recognizing foreign antigens and secreting substances called cytokines that activate T and B cells. T-helper cells fall into two main classes: those that activate other T cells to achieve cellular inflammatory responses, and those that drive B cells to produce antibodies in the acquired immune response. These two classes of response are generally incompatible with one another and require coordination by substances called cytokines to promote one response while dampening the other. The HIV virus attacks T-helper cells, knocking out the body's ability to defend itself against infections.

Hematopoiesis: formation of blood cellular components

Histocompatible: tissue compatible. If a donor and recipient are histocompatible, a transplant is expected to be easily accepted.

Immune tolerance: when the immune system ignores, or fails to react to a protein, cell, or tissue in our body

- currently after transplants, patients are required to be on immunosuppressant drugs, which increase susceptibility to disease and dulls immune response
- immune tolerance could be the key to the future: antigen-specific immune tolerance would use drugs on the cell transplant to make them **tolerogenic** (capable of producing immunological tolerance)



Major Histocompatibility Complex (MHC) proteins: produced by and carried on the plasma membranes of all the host's cells and indicates "self"

- MHC I is expressed by all host cells, can be engaged by T cell receptor on cytotoxic T cells
- MHC II is selectively expressed by Antigen Presenting Cells, can be engaged by T cell receptor on T helper cells

Multipotency: inherently controlled yet extrinsically regulated ability of a cell to differentiate into multiple cell types

Phagocytes: Neutrophils, monocytes, macrophages (white blood cells), and macrophage-like cells that secrete inflammatory mediators and eat other cells and debris