

IMMUNOLOGY

Objectives

1. Describe six types of non-specific defenses
2. List three characteristics of an immune response and give an example of each
3. Describe the differences between cellular and humoral immunity
4. Describe the nature of an antibody molecule
5. Describe the cooperation that occurs between the humoral and the cell mediated divisions of the immune system
6. Explain how vaccinations work
7. How does the HIV compromise immunity?

Overview

1. Homeostatic mechanisms that afford protection against invading pathogens are divided into non-specific and specific defenses.
2. The immune system mediates specific mechanisms of defense; foreign substances are recognized and destroyed by two separate divisions:

Humoral division
Cell-mediated division
3. Antibodies contain binding sites that combine specifically with the antigen responsible for the production of that antibody.
4. The immune system must have **specificity**- the ability to distinguish **self** from non-self and **memory**.

Non-Specific Mechanisms

1. skin
2. mucous membranes
3. digestive enzymes
4. complement proteins
5. interferon
6. inflammation

Specific Defenses

<u>Humoral Branch</u>	<u>Cell-Mediated Branch</u>
- Involves B- lymphocytes	- Involves T- lymphocytes
- Involves antibody production	- Involves cytotoxic T-cells
- Reacts against bacteria, viruses and foreign debris	- Reacts against virus infected & cancer cells, transplanted tissue, & fungi