

Soldiers of Defense

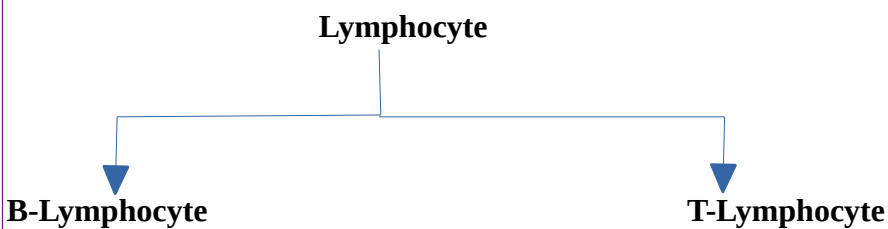
Specific defense mechanism

- Defense mechanism that specifically identify and destroy pathogens that enter the body by overcoming the non-specific defense mechanism of the body.
- Foreign bodies or pathogens that enter the body and stimulate the defense mechanism are called **antigens**.
- The defense mechanism that identifies the structure of each antigen and destroys it specifically is called **specific defense**.

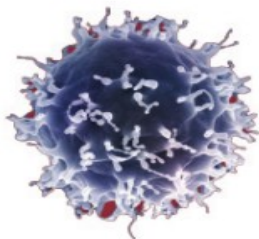
Lymphocytes – The Warrior

- White blood cells called lymphocytes are involved in specific defense mechanism.

There are two types of lymphocytes



B – Lymphocytes



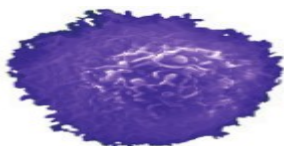
B- Lymphocyte

- Mature in the **bone marrow**.
- Produce certain proteins that act against antigens called **antibodies**.

Antibodies destroy the pathogens in three different ways.

1. Destroy the bacteria by disintegrating their cell membrane.
2. Neutralise the toxin of the antigens.
3. Destroy the pathogens by stimulating other white blood cells

T-Lymphocytes



T- Lymphocyte

- Matures in the **thymus gland**

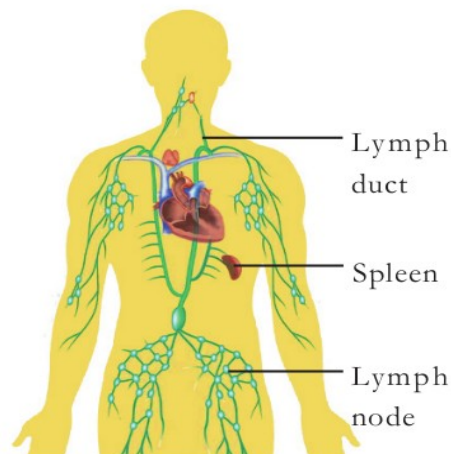
Role of T-Lymphocytes in specific defense mechanism

- Stimulate other defense cells of the body.
- Destroy the cells affected by virus.
- Destroy cancer cells.

Illustration showing the defense mechanisms of blood



Lymph and Defense



- Fluid part of the blood oozes into the intercellular spaces through the minute pores of the blood capillaries.
- The fluid formed in the intercellular spaces is called tissue fluid.
- The tissue fluid is absorbed into the blood and lymph ducts.
- The tissue fluid seen in the lymph ducts are called lymph.

The lymphatic system has:

- Lymph
- Lymph ducts
- Lymph nodes
- Spleen

Lymph as defense mechanism

- The lymph is formed from the blood and reabsorbed into blood.
- Lymph contains plenty of lymphocytes.
- They destroy the disease causing bacteria in lymph nodes and spleen.

EVALUATION:

- 1) Compare and tabulate B & T lymphocytes.
- 2) Prepare a note on specific defense mechanism.