

THE IMMUNE SYSTEM

HOW IT WORKS

WHAT IS THE IMMUNE SYSTEM?

A group of anime characters from the Naruto series, including Naruto Uzumaki, Sakura Haruno, Kakashi Hatake, and others, standing in a line against a dramatic, cloudy sky. They are dressed in their characteristic ninja attire, including headbands and vests.

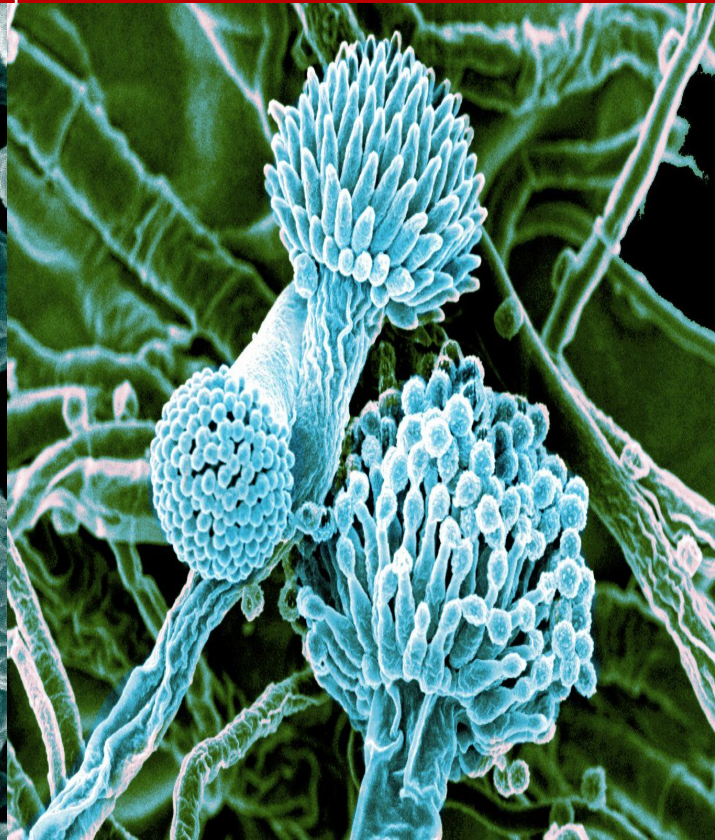
- **IT'S A VAST NETWORK OF CELLS, TISSUES AND ORGANS THAT COORDINATES YOUR BODIES' DEFENSES AGAINST ANY THREATS TO YOUR HEALTH**

TYPES OF PATHOGENES

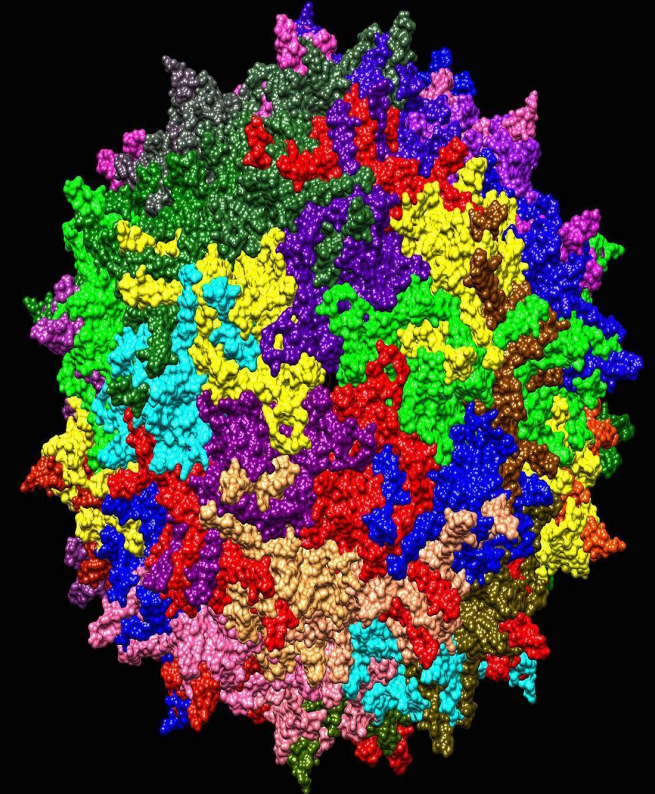
BACTERIA



FUNGI (грибы)

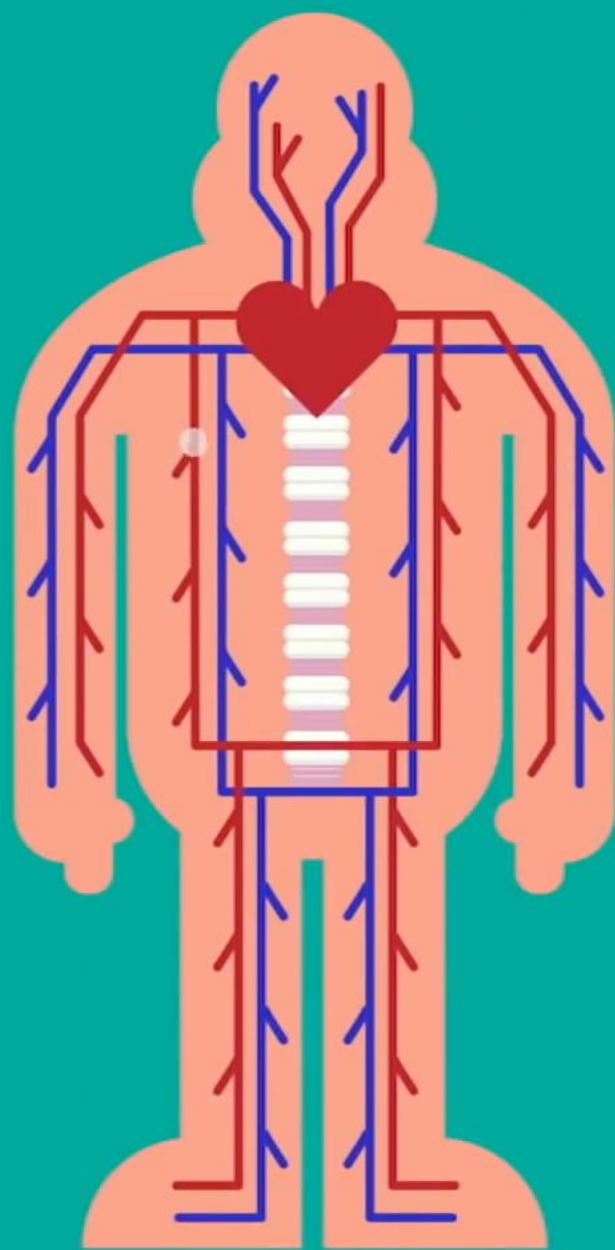


VIRUSES



ORGANS

- Thymus (вилочковая железа)
- Spleen (селезенка)
- Bone marrow (костный мозг)
- Lymph nodes (лимфатические узлы)

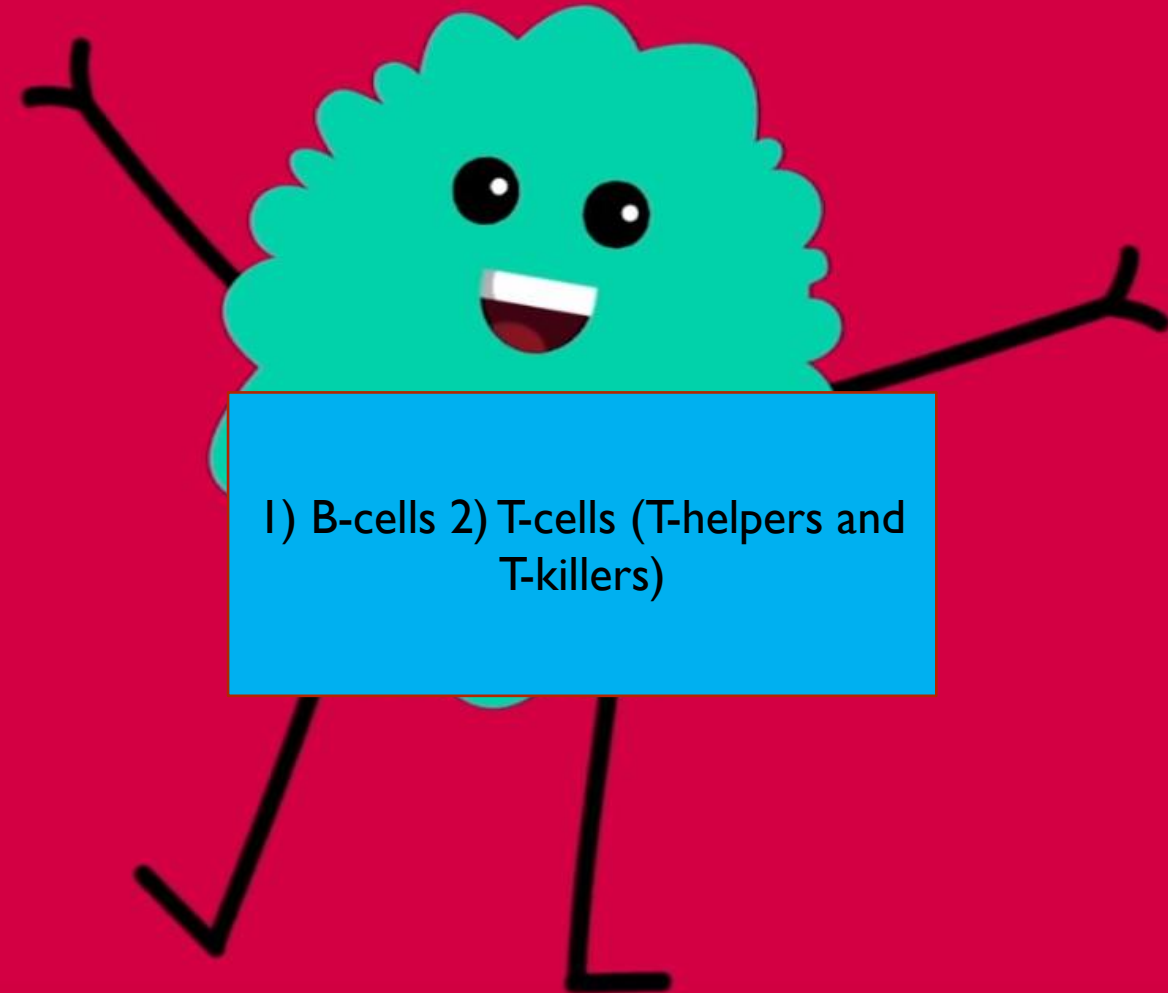


TYPES OF LEUKOCYTES

PHAGOCYTE



LYMPHOCYTE



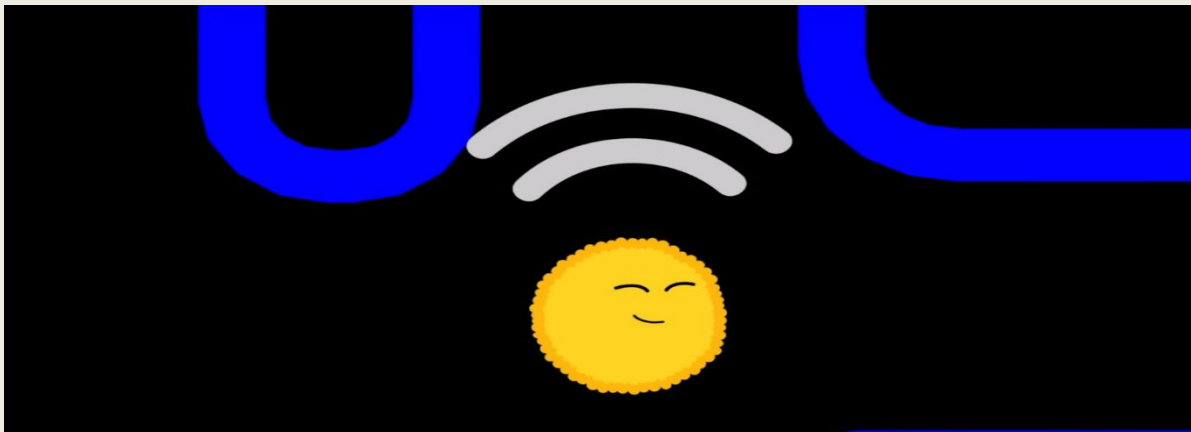
1) B-cells 2) T-cells (T-helpers and T-killers)

PHAGOCYTES

- Absorb the invaders they meet and identify the antigens of pathogens



- Transmit the information to lymphocytes



Elie Metchnikov – discovered phagocytosis

LYMPHOCYTES

- B cells – produce antibodies to kill invaders. Each invader needs specific antibody. They use information gathered by phagocytes
- T-cells kill invaders

TYPES OF THE IMMUNE SYSTEM

- Innate (phagocytes)
- Adapted (lymphocytes)
- Passive