

# THE IMMUNE SYSTEM

HOW IT WORKS

# WHAT IS THE IMMUNE SYSTEM?



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

# TYPES OF PATHOGENES

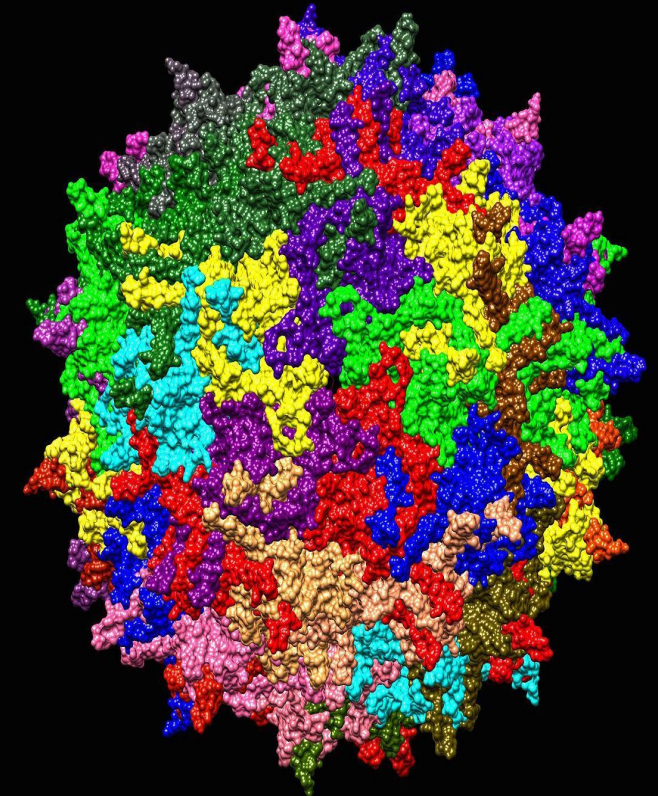
**BACTERIA**



**FUNGI (грибы)**

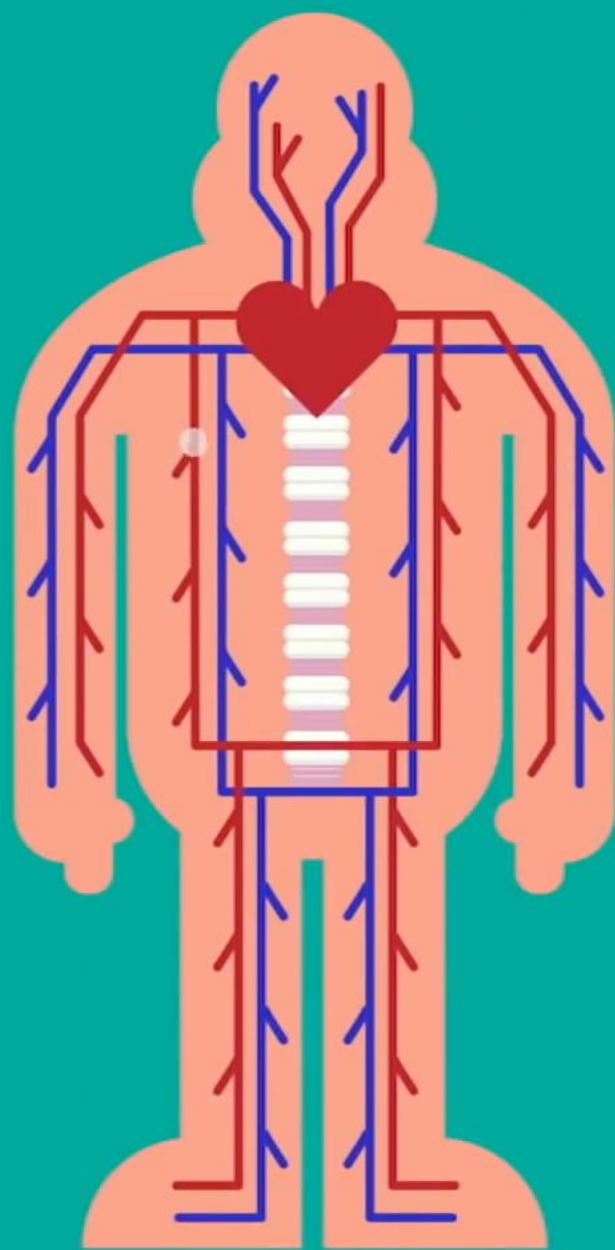


**VIRUSES**



# ORGANS

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

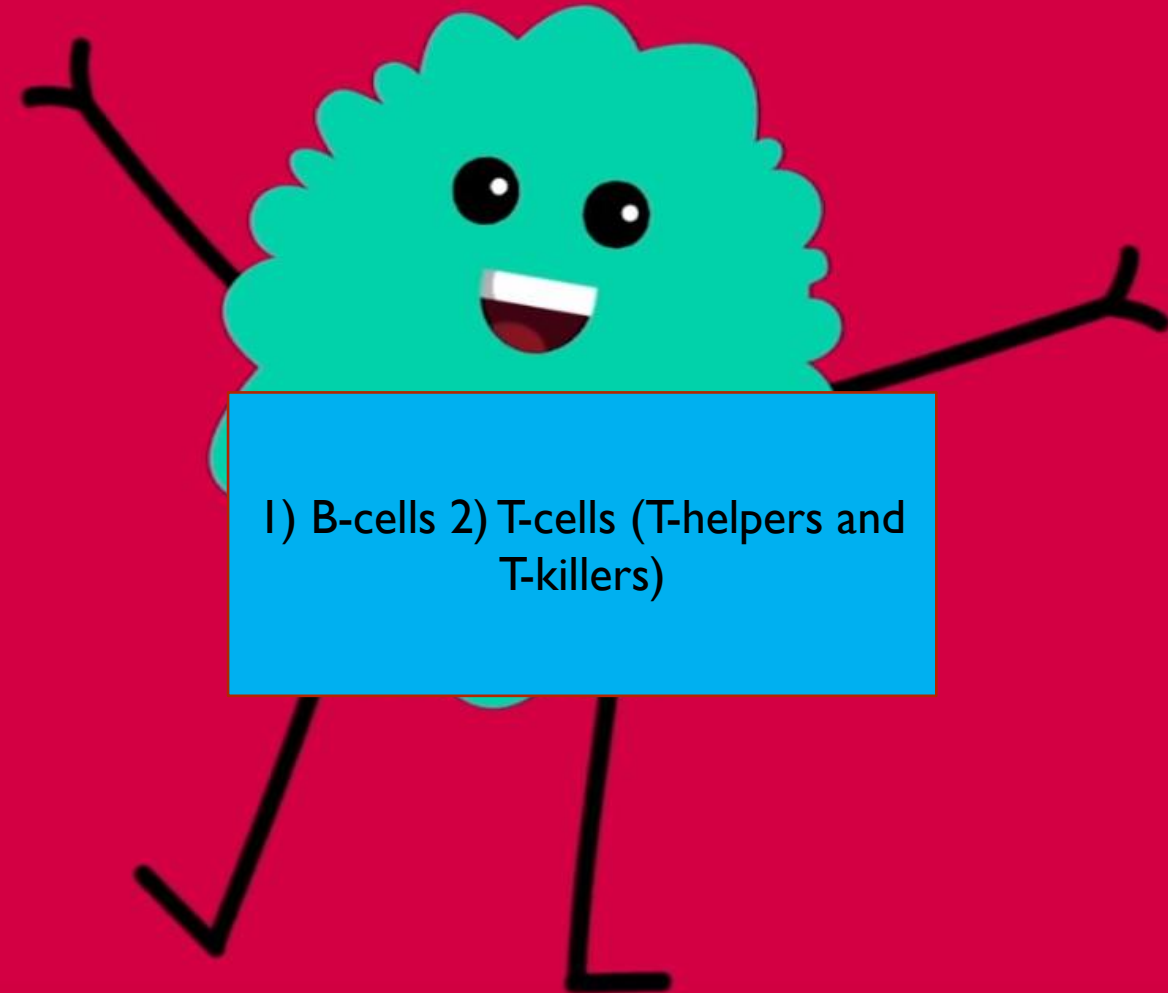


# TYPES OF LEUKOCYTES

## PHAGOCYTE



## LYMPHOCYTE



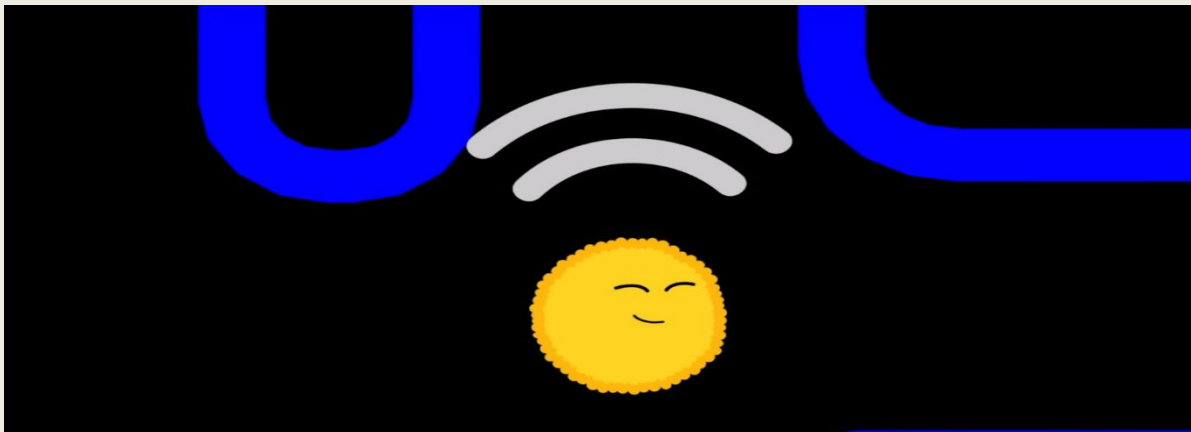
1) B-cells 2) T-cells (T-helpers and T-killers)

# 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