



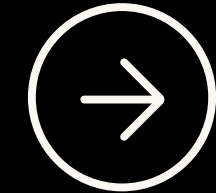
NK CELLS

Sub heading -key players in immune system

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TODAY'S AGENDA



- 1 Introduction of NK cells
- 2 NK cell overview
- 3 Origin and development
- 4 Mechanism of Action
- 5 Role in Disease



INTRODUCTION TO NK CELLS

Natural killer cells (NK cells) are white blood cells that destroy infected cells and cancer cells in your body.

NK cells are important fighters in your immune system.

Your immune system protects you from harmful invaders, like pathogens (viruses, bacteria and parasites) and cancer cells.

Discovery:

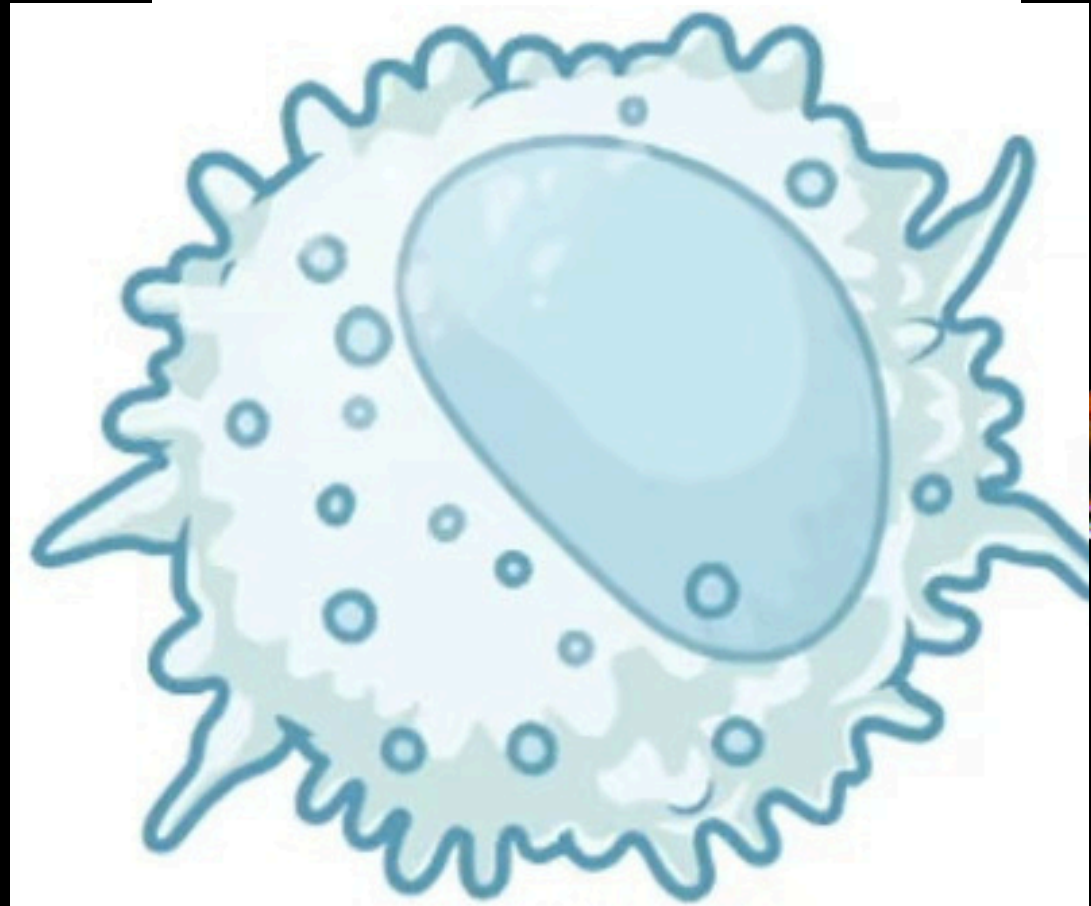
Discovered in the 1970s as cells capable of killing cancerous and infected cells without prior activation.

NK CELLS OVERVIEW



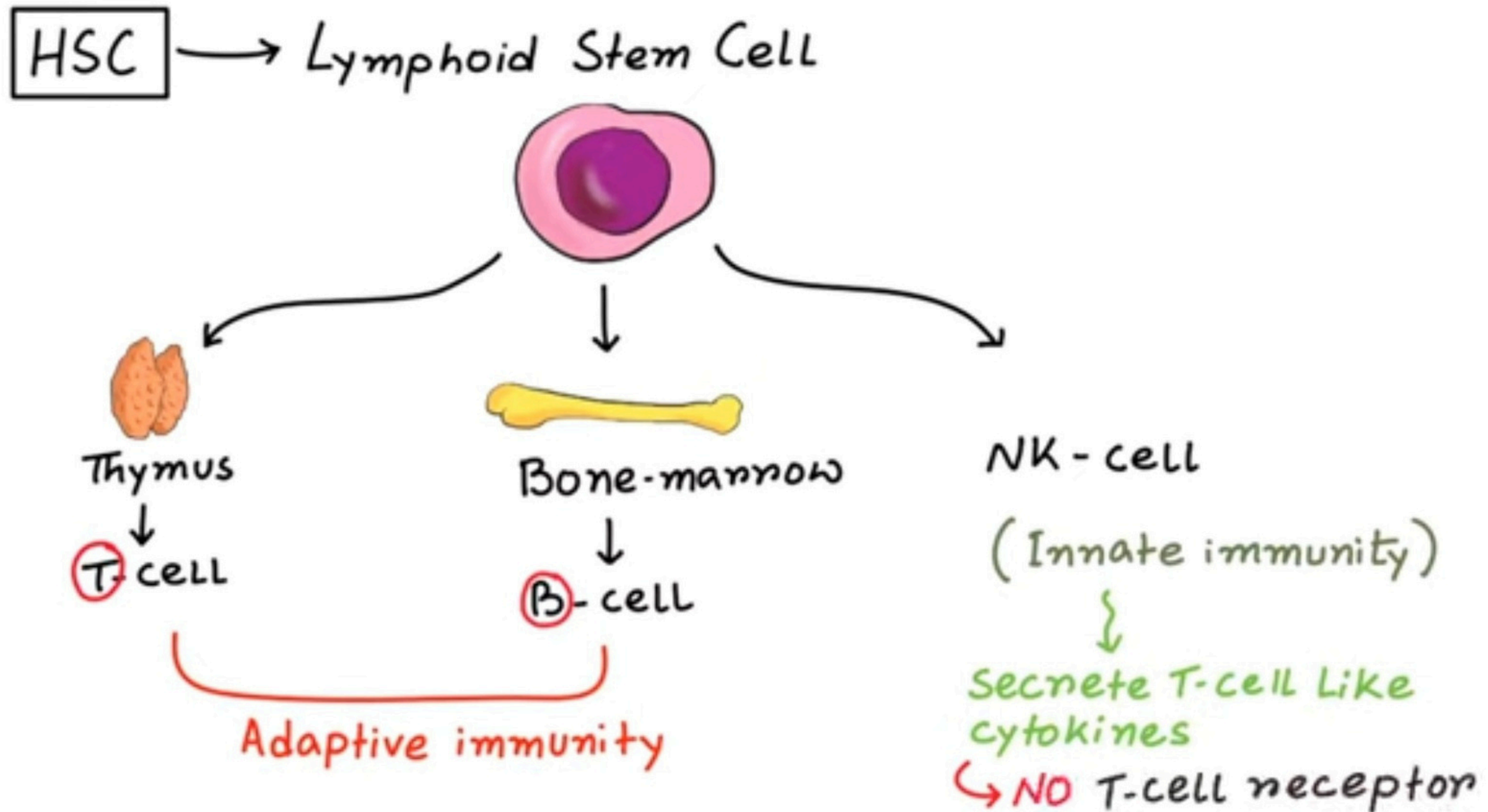
- Type: Innate immune cells
- Development: Originate from the bone marrow.
- Maturation: Mature in the bone marrow and circulate in the blood and lymphoid tissues.

Natural Killer Cell



ORIGIN AND DEVELOPMENT

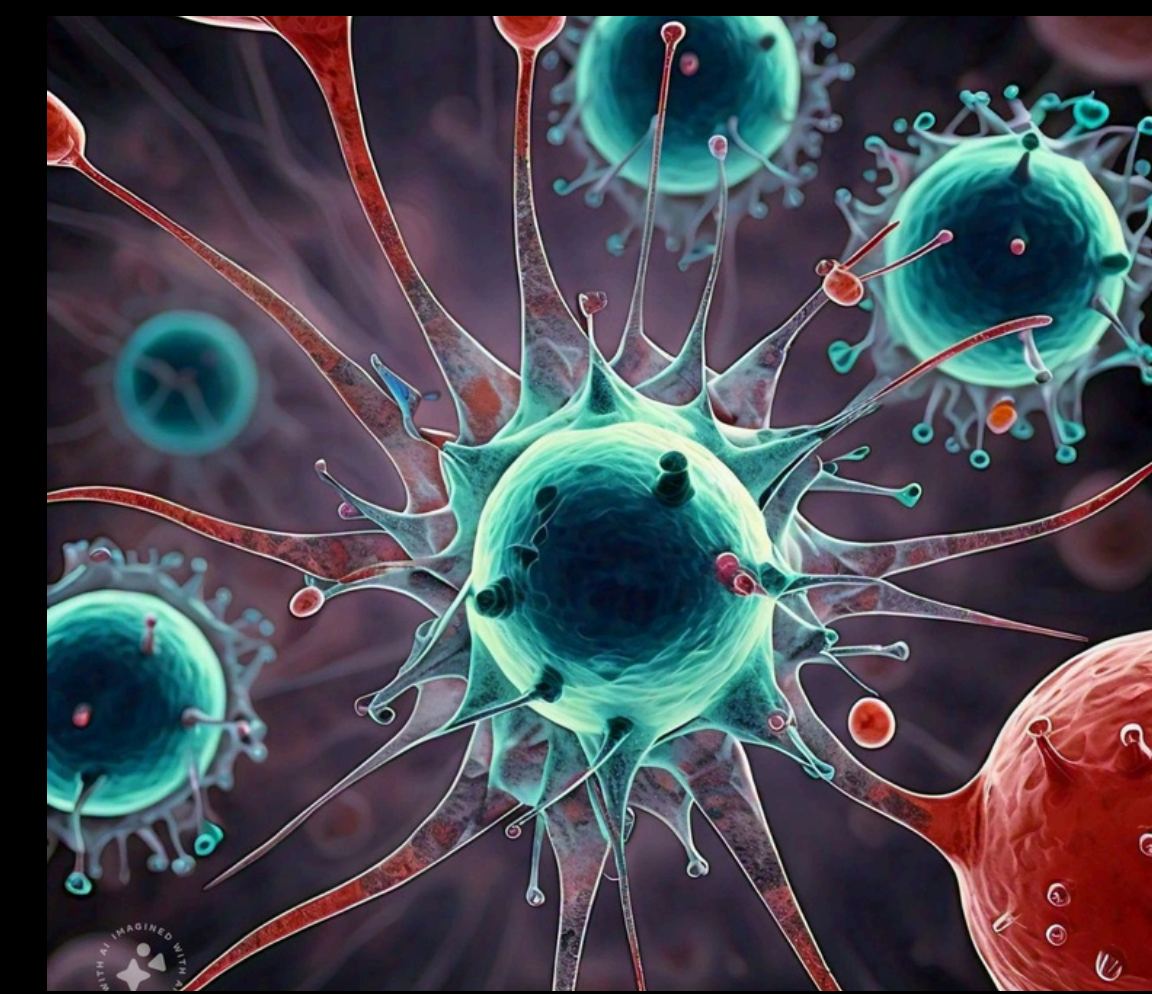
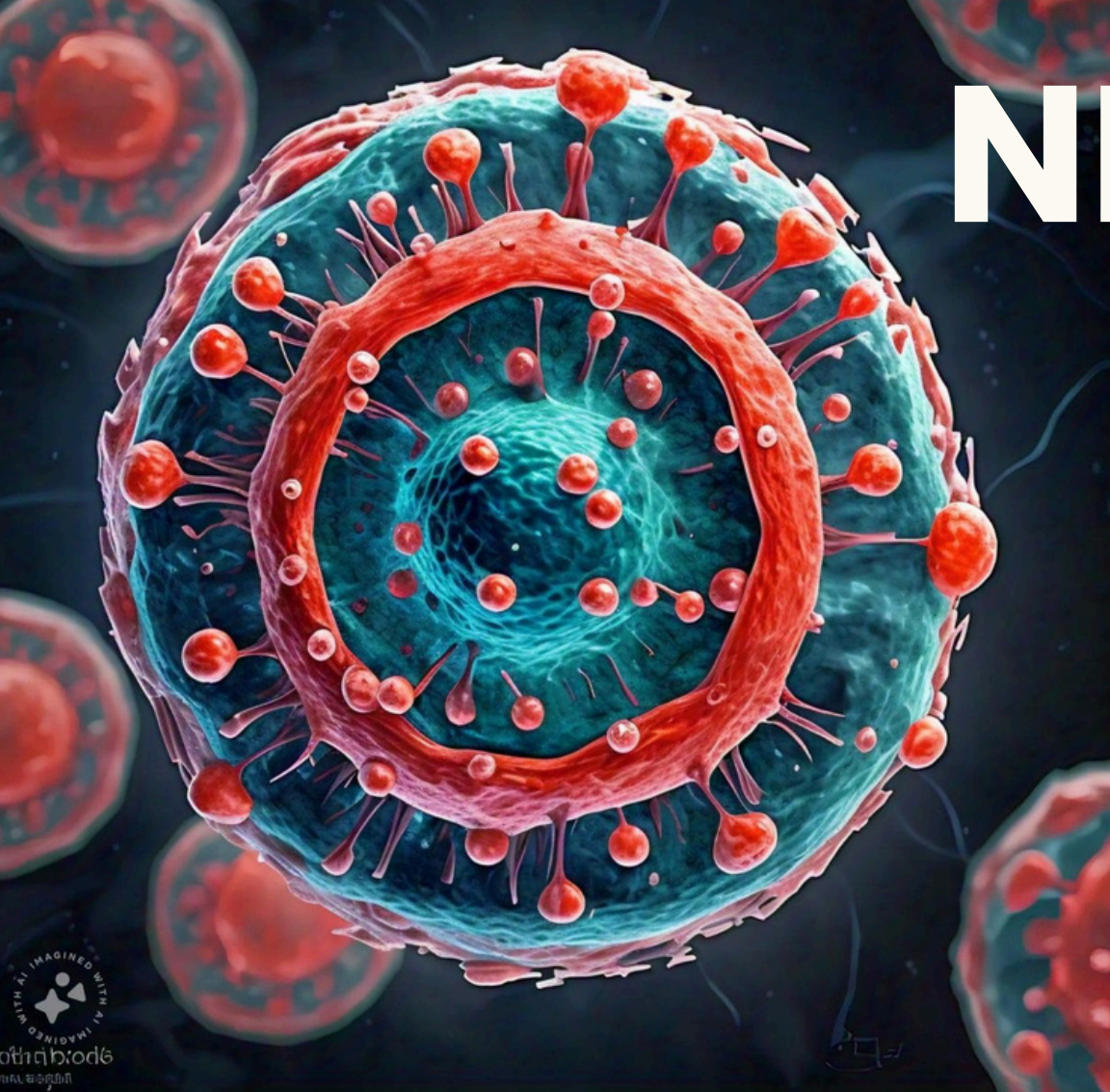
NK CELLS



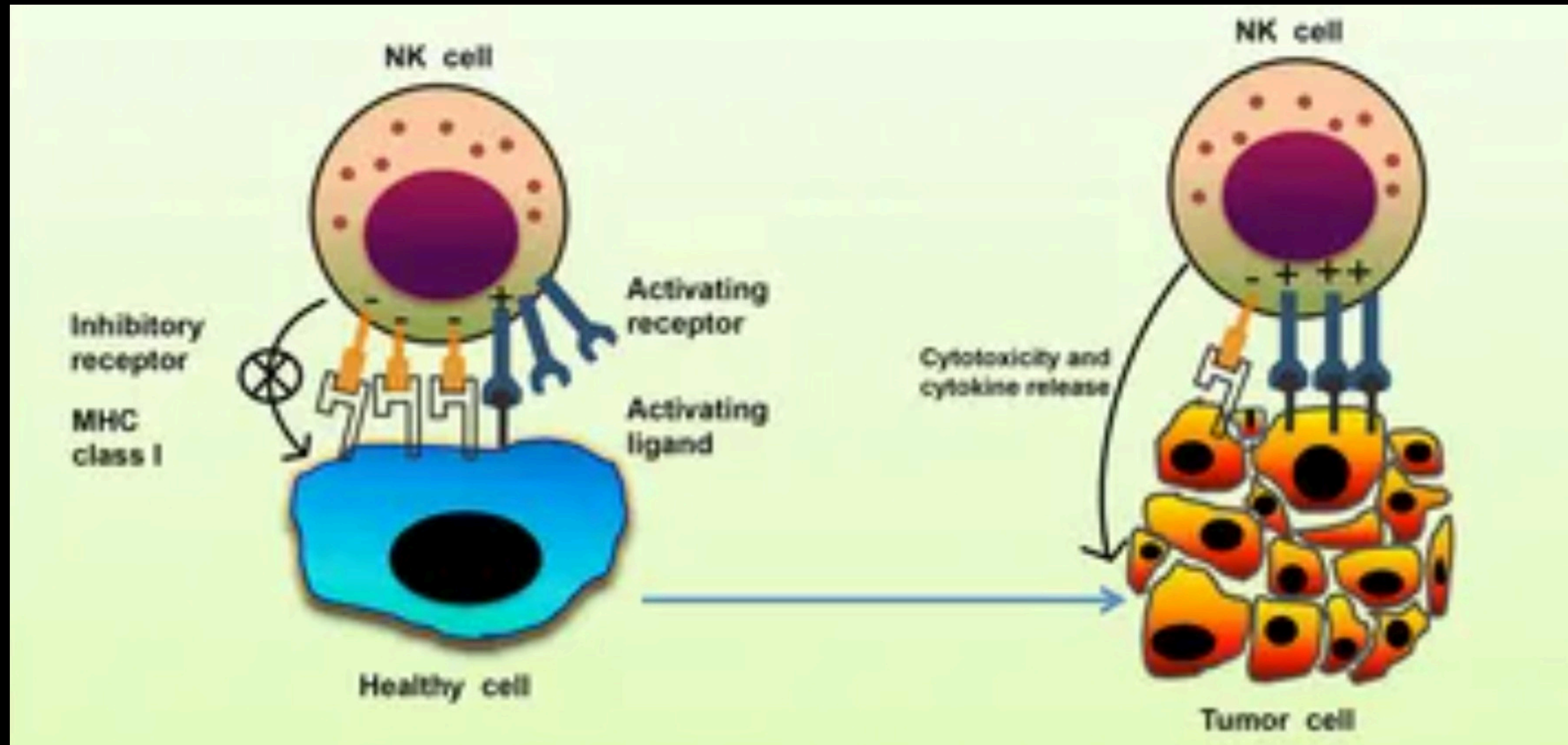
NK CELL STRUCTURE



- Cell membrane
- Cytoplasm
- Nucleus
- Granules
- Cytoskeleton
- Lysosome



MECHANISM OF ACTION



This diagram illustrates the interaction between Natural Killer (NK) cells and their target cells, such as healthy cells and tumor cells



ROLE IN DISEASE



1. Cancer: NK cells recognize and eliminate cancer cells, preventing tumor growth and metastasis.
2. Viral infections: NK cells target and destroy virus-infected cells, controlling viral replication and spread.
3. HIV/AIDS: NK cells contribute to the control of HIV infection, but their function is impaired during disease progression.

Conclusion

NK cells are crucial for rapidly targeting virus-infected and cancerous cells while also regulating immune responses. Their potential in immunotherapy, especially for cancer and viral infections, is promising, and further research is essential to harness their full therapeutic capabilities.



THANK YOU

for your time and attention

