

## Role of NK cells in Human Disease

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### ABSTRACT

The Natural killer (NK) cells have the ability to distinguish the “self” and “non-self” cells and have intrinsic anti-tumor properties. They exhibit explicit response to the stimulation or inhibition in the lysis of specific target cells. In the current scenario, there is a need for detailed studies and specifically-designed approaches to determine the usefulness of NK cells in tumor immunology. The knowledge of the activity of NK cells, its deficiency and association in the treatment of broad-spectrum diseases such as cancer, AIDS can be evaluated and monitored to enhance its therapeutic value.

**Keywords:** Apoptosis; lymphocytes; Immune cells; Cytokines

### DESCRIPTIONS

NK cells are a type of lymphocytes (a subtype of white blood cells) and play an important role as effectors in the innate immune system. [1] They recognize the tumor cells or the cells that lack major histocompatibility complex (MHC) and function by initiating cytokine production and cytolysis, thus killing the cells. [2]. NK cells secrete cytokines such as interferon- $\gamma$  (IFN- $\gamma$ ), tumor necrosis factor- $\alpha$  (TNF- $\alpha$ ) that regulates the activity of other immune cells. [3] These cells contain special proteins such as perforin and proteases like granzymes in their cytoplasm. The proteins upon reaching the targeted viral cells form pores in their cell membrane mediating the entry of the granzymes and other associated molecules to initiate apoptosis. They are characterized by the presence of specific surface receptors.

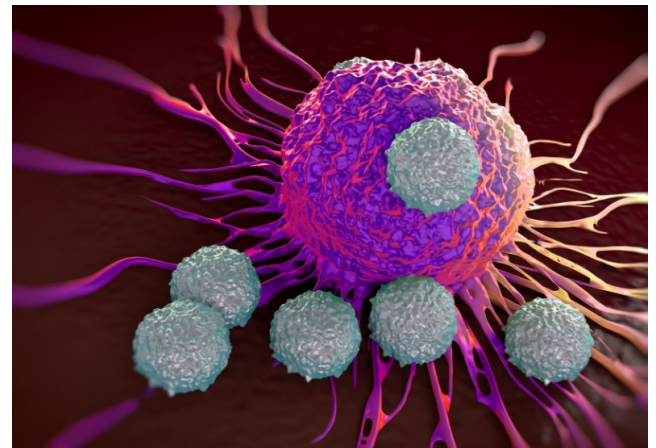


Figure: Early natural killer cell.

### REFERENCES

1. Biassoni R, Cantoni C, Marras D, GironMichel J, Falco M, Moretta L, Dimasi N. Human natural killer cell receptors: insights into their molecular function and structure. *J cell mol med.* 2003 ; 7:376-387.
2. Lanier LL. Turning on natural killer cells. *J exp med.* 2000;191(8): 1259-1262.

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3. Paul S, Lal G. The molecular mechanism of natural killer cells function and its importance in cancer immunotherapy. *Frontiers in immunology*. 2017;8:1124.