CONCEPT: NATURAL KILLER CELLS

●*Recall:* **Natural Killer Cells (NKs):** *innate lymphocyte cells* that do _____ have *specificity* in antigen recognition.

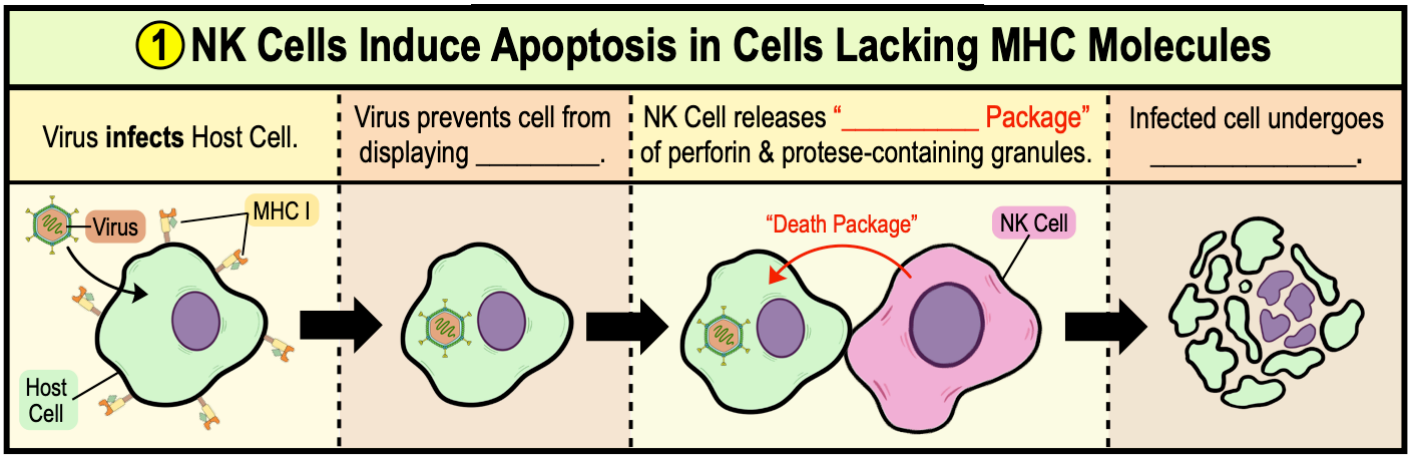
□ Role of NK cell is to destroy *infected* host cells by recognizing *irregular* patterns on host cell _____.

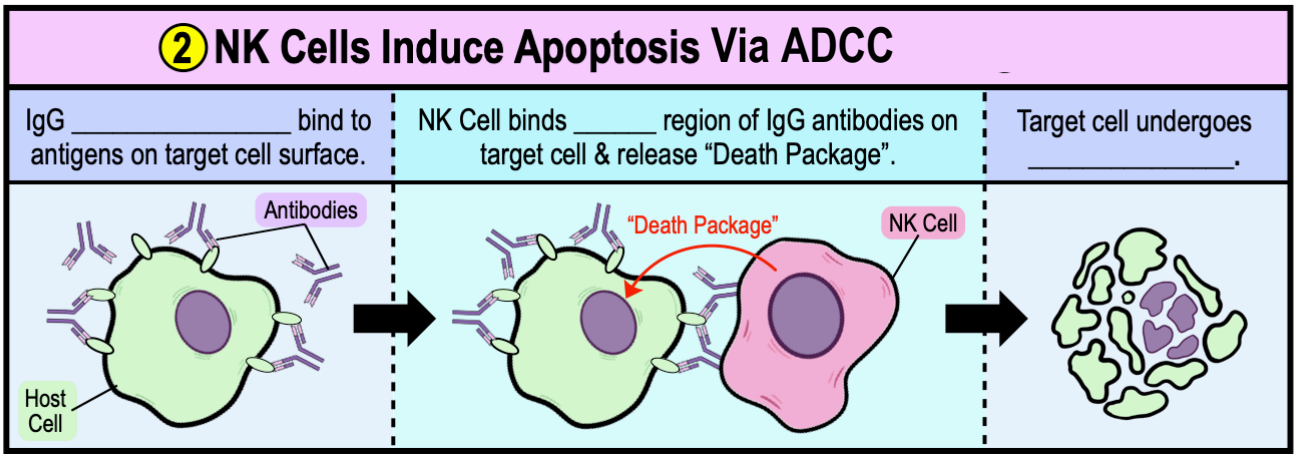
□ NKs release *perforin* & other *protease-containing* granules to induce _____ of the infected host cell.

●NK cells recognize one of 2 *irregular* patterns on infected host cells:

1) Lack of MHC class ____ on the infected host cell (some viruses interfere with antigen presentation).

2) NKs respond to Fc region of IgG antibodies bound to surface of infected host cell, leading to ***ADCC***.





PRACTICE: What is the main difference between natural killer cells & T cytotoxic cells?

a) Natural killer cells do not need to be activated to target & kill infected host cells, but T cytotoxic cells do.

b) T cytotoxic cells do not need to be activated to target & kill infected host cells, but natural killer cells do.

c) T cytotoxic cells bind to antibodies on the surface of host cells & natural killer cells do not.

d) Natural killer cells are a part of the adaptive immune response & T cytotoxic cells are innate lymphocytes.

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PRACTICE: Certain viruses have evolved to be able to avoid detection by cytotoxic T cells. These viruses remove the MHC class 1 molecules from the surface of the cell that they are infecting. This ensures that the cytotoxic T cells do not bind to the infected cell and kill the cell and the virus within. Which immune cell is specifically designed to recognize these types of viral threats?

a) CD4 effector cells.
b) T helper cells.
c) Regulatory T cells.
d) Natural killer cells.
e) CD8 effector cells.

PRACTICE: How are natural killer cells able to kill infected host cells?

a) NK cells bind to IgG antibodies on the infected cell's surface and send apoptosis signals to the infected cell.
b) NK cells send perforin and protease granules to the infected cell triggering apoptosis of the infected cell.
c) NK cells bind to antigens on the infected cell's surface and send signals triggering apoptosis of the infected cell.
d) NK cells mark infected cells for destruction and the infected cell will later be destroyed by cytotoxic t cells.
e) A and B.
f) C and D.
g) D only.
h) All of the above.