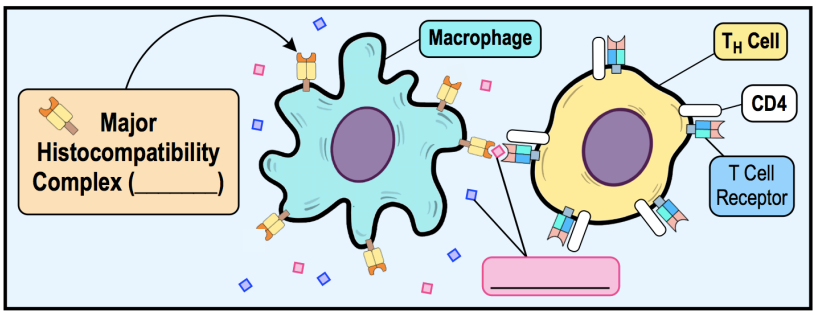
CONCEPT: MAJOR HISTOCOMPATIBILITY COMPLEXES

●Immune cells must properly identify threats & only target *infected* host cells & pathogens (not uninfected host cells).

●One of the ways T cells can detect threats is by interacting with molecules on host cells called _____.

□ **Major Histocompatibility Complexes (_____):** surface proteins on host cells that present antigens to T cells.



Classes of MHC Molecules

●There are _____ classes of MHC molecules:

1) MHC Class ____: found in ALL nucleated host cells presenting ____*dogenous* antigens only *T_C cells* recognize.

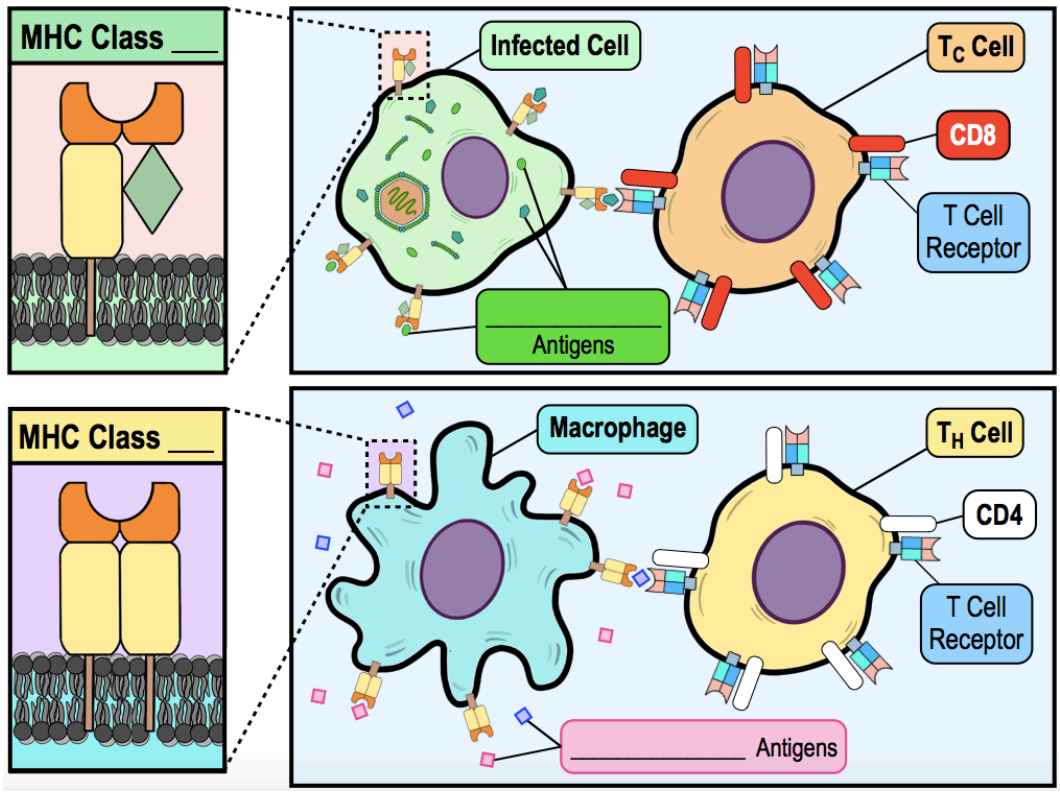
□ **Endogenous antigens:** antigens that originate from _____ the host cell.

2) MHC Class ____: only found in SOME host cells presenting ____*ogenous* antigens only *T_H cells* recognize.

□ **Exogenous antigens:** antigens that originate from _____ the host cell.

□ MHC Class II are only on _____s (*dendritic cells, macrophages, B cells*).

□ CD markers on T cells (CD8 or CD4) guide interaction with the correct MHC class.



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PRACTICE: Which markers are found on all nucleated cells?

a) MHC class I. b) MHC class II. c) CD4. d) CD8.

PRACTICE: MHC class II molecules are found on:

a) Basophils & macrophages.
b) B cells & Neutrophils.
c) Macrophages & Dendritic cells.
d) T helper cells & Macrophages.
e) All antigen presenting cells (APCs).

PRACTICE: Once an MHC II molecule on an APC presents an antigen:

a) Effector cells with CD8 markers activate the APC.
b) Effector cells with CD4 kill the APC.
c) Effector cells with CD8 kill the APC.
d) Effector cells with CD4 activate the APC.

PRACTICE: If an effector CD4 cell encounters an antigen presented on a MHC Class II molecule, how would it respond?

a) Send signals to the APC trigger apoptosis in the APC.
b) Engulf the APC and degrade the infected cell and the intracellular pathogen.
c) Send signals to the APC, activating the APC and triggering an immune response.
d) All of the following are possible responses of the effector CD4 cell.