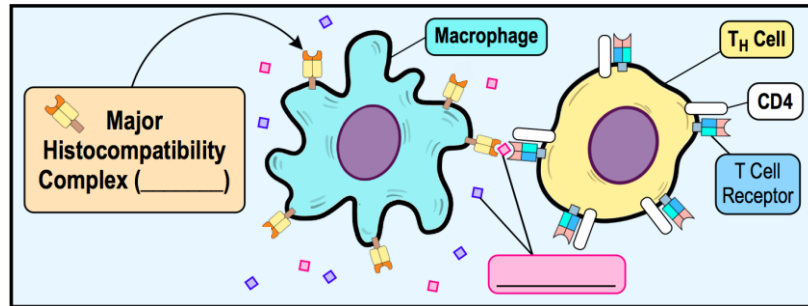


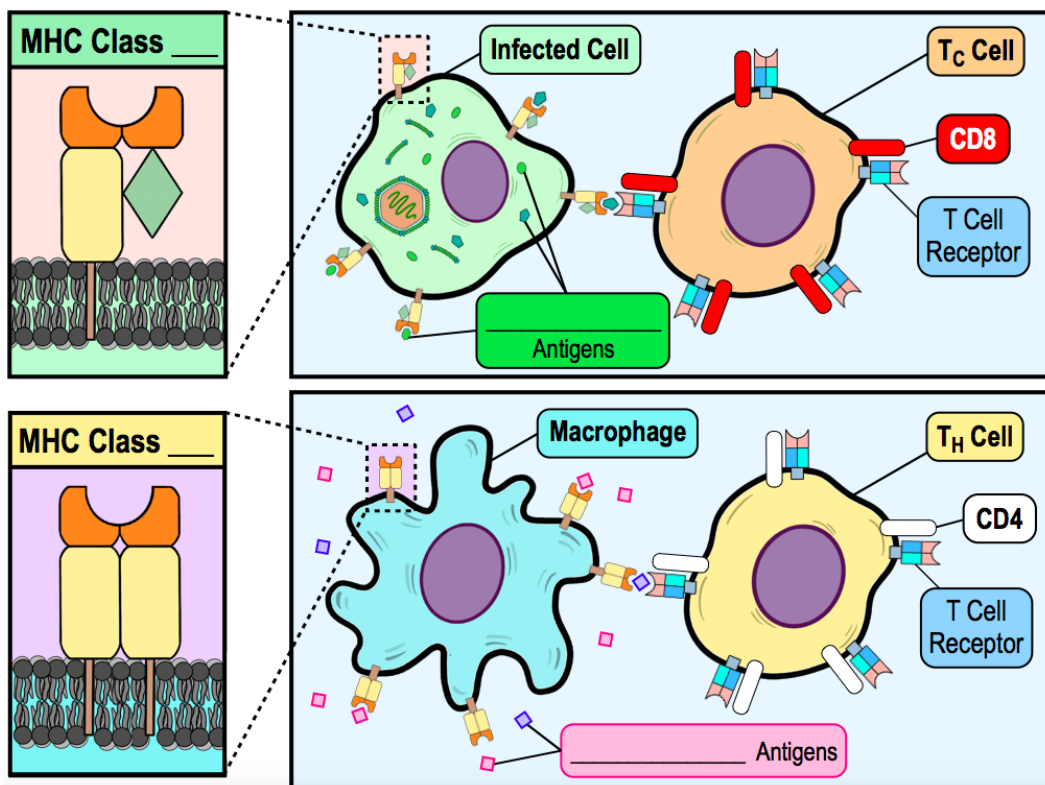
CONCEPT: MAJOR HISTOCOMPATIBILITY COMPLEXES

- 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 _____ *ogenous* 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.



CONCEPT: MAJOR HISTOCOMPATIBILITY COMPLEXES

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.