

HOMEWORK 3

Name _____

ID # _____

Due Monday, July 25th BEFORE class begins.

This homework is worth 15 points. Answers must be hand-written on this form.

Only legible writing within the boxes will be graded.

You may discuss the questions in groups, but your answers must be from your own work.

1. (4 pts) Antibiotic treatment weakens one of the immune defenses of the human body.

a. Name and describe this defense.

b. Give examples of two (2) mechanisms by which this defense protects the host.

2. (4 pts) Some viral genomes encode proteins that repress the expression of MHC genes by their host cells.

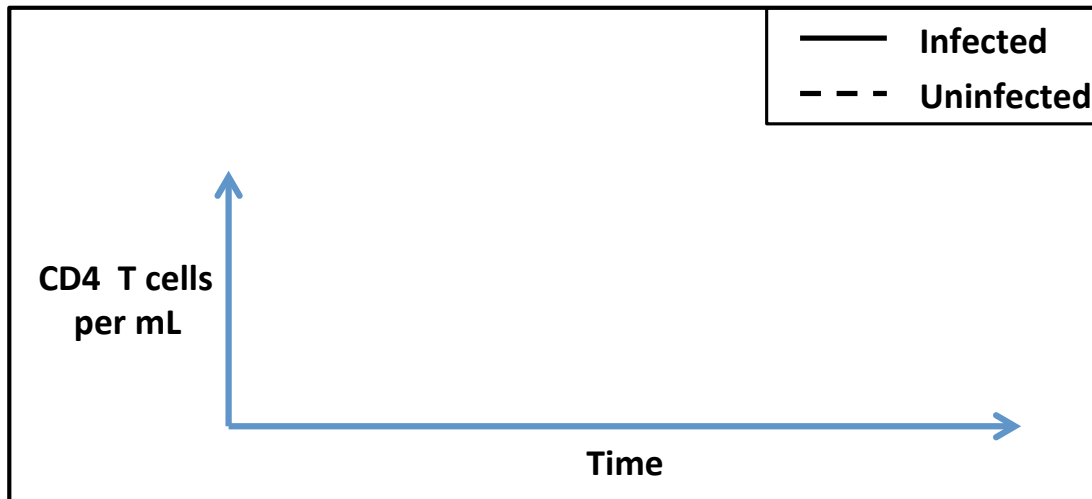
a. Explain how MHC molecules are involved in the killing of virus-infected cells.

b. Explain how repression of MHC expression facilitates viral replication.

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3. (2 pts) Diagram the CD4 count over time in an HIV infected (solid line) and uninfected (dashed line) individual.



4. (5 pts) Name and *briefly* describe one mechanism by which a bacterial pathogen can overcome each of the following immune defenses in the course of infection.

Gastric acid
Death by phagocytosis
Complement activation
Antibody recognition of a specific pilus protein
Exposure to circulating antibodies when spreading from cell to cell