

Lab 7: Immune System

GOALS:

You should be able to.....

- ★ List nonspecific defenses of the human body against infection.
- ★ Describe the nonspecific process of an inflammatory response.
- ★ Describe how the lymphatic system is organized and how substances are transported through it.
- ★ Contrast the nonspecific responses with the specific immunity responses of the human body.
- ★ Compare and contrast humoral immunity (initiated by B-cells) and cell-mediated immunity (initiated by T-cells).
- ★ Describe the interaction between antigens and antibodies.
- ★ Describe the actions of helper T-cells and cytotoxic T-cells.
- ★ Explain how our bodies can develop immunity against specific diseases.

Key Terms:

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|-------------------------|----------------------------------|
| ✓ pathogen | ✓ immunity |
| ✓ nonspecific defenses | ✓ humoral immunity |
| ✓ macrophages | ✓ cell-mediated immunity |
| ✓ phagocytosis | ✓ memory cells |
| ✓ complement proteins | ✓ effector cells |
| ✓ inflammatory response | ✓ cell lysis |
| ✓ histamine | ✓ neutralization |
| ✓ lymphatic system | ✓ agglutination |
| ✓ lymph | ✓ cytotoxic T cells |
| ✓ lymphocytes | ✓ helper T cells |
| ✓ antigen | ✓ antigen-presenting cells (APC) |
| ✓ antibody | ✓ self-nonself complex |
| ✓ antigen receptors | ✓ vaccination |
| ✓ B-cells | |
| ✓ T-cells | |

I. Intro to Major Concepts: Class notes & Discussion

II. Reading & Role-play Presentations

- ☐ You will break into four different groups. Each group will be responsible for teaching the rest of the class about their topic.
- ☐ Successfully presenting to the class will give everyone in your group 2 extra credit points. You must follow the instructions included with your reading material and fulfill the following criteria:
 - You must introduce your topic to the class.
 - Your group must role-play (act out) your assigned immune response.
 - You must have a narrator or narrators explain what is going on as you act it out.
 - You need to wrap-up your presentation by reviewing what you acted out. You may use the provided overhead visuals. Be sure to clearly explain any new vocabulary.

The topics are:

- 1) The inflammatory response
- 2) How antibodies inactivate antigens
- 3) The activation of helper T-cells
- 4) The action of activated helper T-cells & cytotoxic T-cells.

