

## STUDY GUIDE: Immunology

### KEY TERMS

immunity	humoral immune	helper T cells
active	response	suppressor T cells
passive	cell-mediated immune	interleukins
antigen	response	lymphokines
antigenetic determinants	B lymphocyte	interferon
immunoglobulins(Ig)	plasma cells	suppressor T cell
antibody structure	memory cells	clonal selection
variable regions	macrophages	autoimmune disease
constant regions	opsonization	major histocompatibility
light chains	complement systems	complex (MHC
heavy chains	mast cells	antigens)
antigen binding site	T lymphocyte	
lymphocytes	cytotoxic T cells	

### QUESTIONS

1. What is a nonspecific defense mechanism? Give two examples.
2. Describe inflammatory response. How does inflammatory response help the body fight invaders?
3. What is humoral immune response?
4. What is cell-mediated response?
5. Complete the following table

#### **Feature T lymphocytes B lymphocytes**

site of maturation (thymus vs. bone marrow)  
type of immune response (humoral vs. cell mediated) elicited  
type of antigens to which cell responds

6. Explain what happens when an organism is exposed to an antigen such as a bacterial cell and is stimulated to produce antibodies, making clear the role of the B lymphocytes, plasma cells, memory cells, antibodies, macrophages, K lymphocytes, mast cells, and the complement system.
7. Diagram a antibody molecule, label light and heavy chains and the antigen binding sites.
8. Describe how the cell-mediated immune response acts to defend the body against antigens such as those found on cancer cells or virus-infected cells. Be sure to include the role of memory cells, cytotoxic T cells, helper T cells, suppressor T cells, interleukins, lymphokines, macrophages, and mast cells.
9. How is the body able to respond specifically to a very large number of invaders(antigens)?
10. What is secondary immune response? Use a graph to illustrate how it works.
11. Explain how the body is able to recognize "self" from "nonself" and discuss the role of the antigens produced by the major histocompatibility complex (MHC) in the recognition of infected or transplanted cells.
12. What is an autoimmune disease?