STUDY GUIDE: Immunology KEY TERMS

immunity active passive antigen antigenetic determinants immunoglobulins(Ig) antibody structure variable regions constant regions light chains heavy chains antigen binding site lymphocytes

humoral immune response cell-mediated immune response B lymphocyte plasma cells memory cells macrophages opsonization complement systems mast cells T lymphocyte cytotoxic T cells helper T cells suppressor T cells interleukins lymphokines interferon suppressor T cell clonal selection autoimmune disease major histocompatibility complex (MHC antigens)

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?