Microbiology Learning Objectives C18
Practical Applications of Immunology

1. What is a vaccine? What is the meaning of vaccine?
2. Why is a vaccination often the only feasible way to control most viral diseases?
3. What is herd immunity?
4. Differentiate the following: attenuated, inactivated, toxoid, subunit, and conjugated vaccines.
5. What is the safest and most effective means of preventing infectious disease in children?
6. Define adjuvant.
7. What property of the immune system suggested its use as an aid for diagnosing disease: specificity or sensitivity?
8. What are monoclonal antibodies? What are their advantages over conventional antibody production? (Fig 18.2)
9. Explain the importance of monoclonal antibodies.
10. How are monoclonal antibodies used in the home pregnancy test? (Fig 18.13)
11. Differentiate direct from indirect agglutination tests?
12. Define hemagglutination.
13. Which test detects soluble antigens: agglutination or precipitation?
14. In what way is there a connection between hemagglutination and certain viruses?
15. Compare and contrast direct and indirect fluorescent-antibody tests.
16. Explain how direct and indirect ELISA tests work.
17. Explain how Western blotting works?