13.2H: Immobilization of Bacteria and Protozoans

Learning Objectives

1. Discuss how antibodies defend the body by immobilizing bacteria and protozoans. (Include the role of the Fab portion of the antibody, the role, if any, of the Fc portion of the antibody, and the role of any complement proteins, if any, involved.)

Flagella and cilia are organelles of locomotion and enable motile microorganisms to move towards or away from environmental molecules through a process called taxis. The mucosal surfaces of the bladder and the intestines constantly flush bacteria away in order to prevent colonization. Motile bacteria that can swim chemotactically toward mucosal surfaces may have a better chance to make contact with the mucous membranes, attach, and colonize.

Antibodies are made against the flagella of motile bacteria or the flagella or cilia of motile protozoans. The Fab portions of the antibodies bind to these locomotor organelles and arrest the organism's movement blocking its ability to spread.

Summary

1. Flagella and cilia are organelles of locomotion and enable motile microorganisms to move towards or away from environmental molecules through a process called taxis.
2. Antibodies are made against the flagella of motile bacteria or the flagella or cilia of motile protozoans.
3. The Fab portions of the antibodies bind to these locomotor organelles and arrest the organism's movement blocking its ability to spread.
Questions

Study the material in this section and then write out the answers to these questions. Do not just click on the answers and write them out. This will not test your understanding of this tutorial.

1. Discuss how antibodies defend the body by immobilizing bacteria and protozoans. (Include the role of the Fab portion of the antibody, the role, if any, of the Fc portion of the antibody, and the role of any complement proteins, if any, involved.) *(ans)*