

Microbiology Learning Objectives C16
Innate Immunity: Nonspecific Defenses of the Host

1. Differentiate innate and adaptive immunity.
2. What are Toll-like receptors? What relationship do Toll-like receptors have to pathogen-associated molecular patterns?
3. What is the first line of defense? Characterize defense?
4. What is the second line of defense? Characterize defense?
5. What is the role of normal microbiota in innate immunity?
6. What are the six different types of WBC? Functions?
7. Differentiate the lymphatic and blood circulatory systems? What is the difference between a circulatory system and a drainage system? What organs are the “filters” for these systems?
8. What are phagocytes? What is phagocytosis?
9. What do fixed and wandering macrophages do?
10. How does each of these bacteria avoid destruction by phagocytes? a) *Streptococcus pneumoniae*, b) *Staphylococcus aureus*, c) *Listeria monocytogenes*, e) *Mycobacterium tuberculosis*, f) *Rickettsia*
11. What is the function of inflammation?
12. What are the stages of inflammation? Explain role of vasodilation, kinins, prostaglandins, and leukotrienes.
13. What are the four cardinal signs of inflammation?
14. What is margination and diapedesis?
15. What is fever? Why is it classified as a non-specific form of resistance?
16. What is complement? Where is it formed? Where is it “stored”? How is it activated? What are the possible outcomes?
17. What are interferons? Compare and contrast the actions of IFN-alpha, IFN-beta, and IFN-gamma.
18. What is the role of antimicrobial peptides in innate immunity?