SELF-TEST

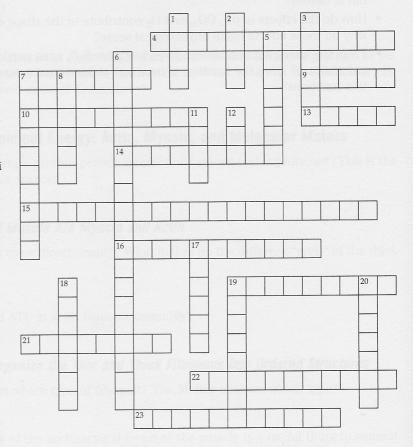
Do You Know the Terms?

ACROSS

- **4.** _____ occurs when the binding of one ligand increases or decreases the binding of additional ligands.
- The ______ immune system protects against bacterial infections.
- **9.** This protein can exist in a globular or filamentous form; hydrolysis of ATP is necessary to convert one to the other.
- **10.** Composed of many sarcomeres, many of these make up a muscle fiber.
- **13.** The covalent binding of CO₂ to the amino termini of hemoglobin subunits favors the _____ form.
- 14. This protein has a hyperbolic O₂ binding curve and no quaternary structure; it serves as an O₂ "reservoir" in muscle cells.
- 15. The metabolic intermediate 2,3-_____ binds to hemoglobin molecules with a stoichiometry of 1:1 and promotes the release of O_2 .
- 16. Red blood cell.
- 19. A prosthetic group containing iron.
- 21. Immunoglobulin.
- 22. Types of white blood cells; T and B cells.
- **23.** A helper T cell can signal nearby lymphocytes by secretion of a signal protein called a(n)

DOWN

- 1. The production of lactic acid in muscle tissue contributes to the _____ effect, which explains the link between lactate production and an increased release of O₂ from hemoglobin.
- **2.** The iron in this prosthetic group can bind either CO or O₂ at its sixth coordination position.
- 3. A molecule reversibly bound by a protein.
- 5. Antibodies are produced by the immune system as part of a defense against invasion by a foreign particle known as a(n) ______.
- **6.** Red blood cells transport CO₂ produced by respiring tissues in two forms: as bicarbonate ions and as
- 7. Oxygen transport protein that binds O_2 with a stoichiometry of 4 O_2 :1 molecule transport protein.
- **8.** Individual molecules of _____ aggregate to form thick filaments.



- **11.** All vertebrates have an immune system capable of distinguishing _____ from invader.
- 12. Cleavage of an IgG with the protease papain separates the basal fragment from the "branches," called ______
- 17. Small molecules covalently attached to large proteins in the laboratory in order to elicit an immune response.
- **18.** A particular molecular structure within an antigen that binds an individual antibody.
- **19.** Heme groups are covalently bound to globin through the _____ histidine residue.
- **20.** Allosteric proteins such as hemoglobin and IgG exhibit changes in their 3-D structure, a process known as