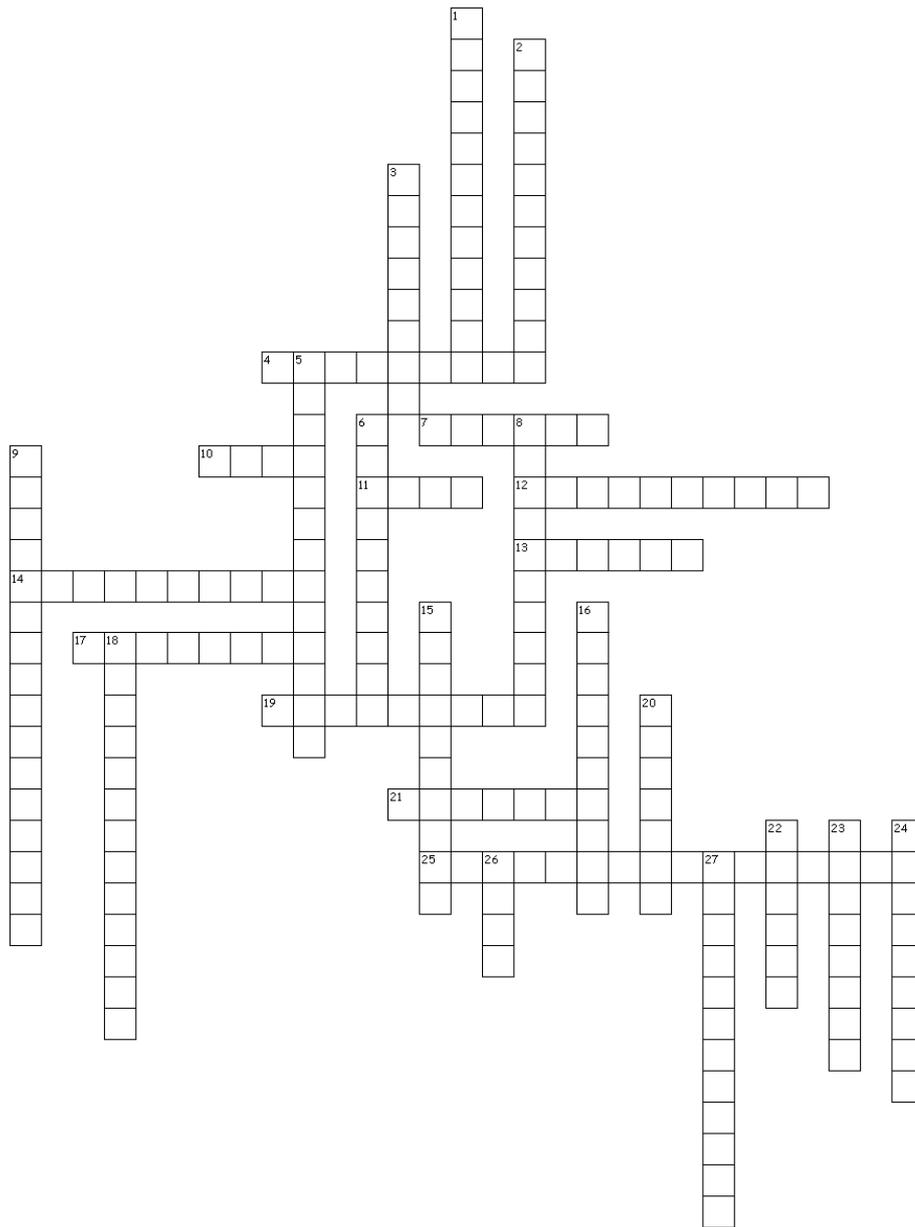


## Immune System Crossword PARA3002



### Across

4. A process of controlled cellular suicide; eliminates cells that are unneeded, stressed, or aged.
7. These cells oversee humoral immunity; their descendants differentiate into antibody-producing plasma cells.
10. Acquired immune deficiency syndrome; caused by human immunodeficiency virus (HIV); symptoms include severe weight loss, night sweats, swollen lymph nodes, opportunistic infections.
11. Immune cells that function to detect foreign substances in the tissue spaces and initiate local inflammatory responses against them; typically found clustered deep to an epithelium or along blood vessels.
12. Protective cell type common in connective tissue, lymphoid tissue, and many body organs; phagocytizes tissue cells, bacteria, and other foreign debris; presents antigens to T cells in the immune response.
13. Type of T lymphocyte that orchestrates cellular immunity by direct contact with other immune cells and by releasing chemicals called cytokines; also helps to mediate the humoral response by interacting with B cells.
14. Most abundant type of white blood cell.
17. Disease-causing organism.
19. A chemical messenger (neurotransmitter or paracrine); causes vasodilation and increased capillary permeability; in stomach causes acid secretion.
21. Preparation that provides artificially acquired active immunity.
25. Any congenital or acquired condition causing a deficiency in the production or function of immune cells or certain molecules (complement, antibodies, etc.) required for normal immunity.

### Down

1. Engulfing of foreign solids by phagocytic cells.
2. IgE mediated reaction, involving mast cells and possibly basophils.
3. Ability of the body to resist many agents (both living and nonliving) that can cause disease; resistance to disease.
5. A lipid-based chemical messenger synthesized by most tissue cells that acts locally as a paracrine.
6. A group of bloodborne proteins, which, when activated, enhance the inflammatory and immune responses and may lead to cell lysis.
8. Agranular white blood cell that arises from bone marrow and becomes functionally mature in the lymphoid organs of the body.
9. Ability of the body's immune cells to recognize (by binding) specific antigens; reflects the presence of plasma membrane-bound receptors.
15. Movement of a cell, organism, or part of an organism toward or away from a chemical substance.
16. Protein released from virus-infected (and other) cells that protect uninfected cells from viral takeover. Also inhibit some cancers.
18. non IgE mediated reaction, occurs through a direct nonimmune-mediated release of mediators from mast cells and/or basophils or result from direct complement activation.
20. A substance or part of a substance (living or nonliving) that is recognized as foreign by the immune system, activates the immune system, and reacts with immune cells or their products.
22. Type of T lymphocyte that directly kills foreign cells, cancer cells, or virus-infected body cells by inducing apoptosis.
23. A protein molecule that is released by a plasma cell (a daughter cell of an activated B lymphocyte) and that binds specifically to an antigen; an immunoglobulin.
24. Small proteins that act as chemical messengers between various parts of the immune system.
26. Highly contagious viral disease; marked by excessive agranulocytes; usually caused by EBV
27. An innate (nonspecific) defensive response of the body to tissue injury; includes dilation of blood vessels and an increase in vessel permeability; indicated by redness, heat, swelling, and pain.