

## **Lecture: Cellular and molecular Immunology**

*An interactive lecture following the latest version (10<sup>th</sup> edition) of the book by Abul K. Abbas, Andrew H. Lichtman, and Shiv Pillai. For individuals with a medical or scientific background and an interest in basic immunology. [If you are interested, contact Remo Frei \(remo.frei@unibe.ch\).](mailto:remo.frei@unibe.ch)*

Lecture 1. Properties and Overview of Immune Responses

Lecture 2. Cells and Tissues of the Immune System

Lecture 3. Leukocyte Circulation and Migration Into Tissues

Lecture 4. Innate Immunity

Lecture 5. Antibodies and Antigens

Lecture 6. Antigen Presentation to T Lymphocytes and the Function of Major Histocompatibility Complex Molecules

Lecture 7. Immune Receptors and Signal Transduction

Lecture 8. Lymphocyte Development and Antigen Receptor Gene Rearrangement

Lecture 9. Activation of T Lymphocytes

Lecture 10. Differentiation and Functions of CD4<sup>+</sup> Effector T Cells

Lecture 11. Differentiation and Functions of CD8<sup>+</sup> Effector T Cells

Lecture 12. B Cell Activation and Antibody Production

Lecture 13. Effector Mechanisms of Humoral Immunity

Lecture 14. Specialized Immunity at Epithelial Barriers and in Immune Privileged Tissues

Lecture 15. Immunologic Tolerance and Autoimmunity

Lecture 16. Immunity to Microbes

Lecture 17. Transplantation Immunology

Lecture 18. Tumor Immunology

Lecture 19. Hypersensitivity Disorders

Lecture 20. Allergy

Lecture 21. Primary and Acquired Immunodeficiencies