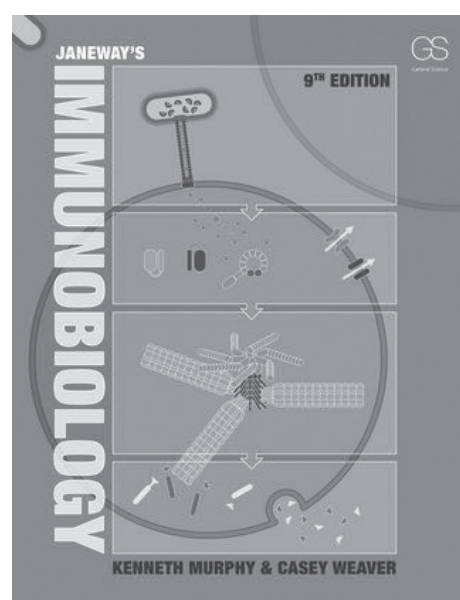


Janeway's Immunobiology, 9th Edition

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The latest edition of *Immunobiology* is addressed to practitioners, researchers, and undergraduate and graduate students of medicine or biology. The textbook covers basic immunology, immunopathology, and clinical immunology. It begins with basic concepts in immunology and ends with fundamental principles of allergic diseases, autoimmunity, transplantation, and manipulation of the immune response. The updated version is interesting and has made it easier to understand the complexities of the immune system. The textbook contains a series of clear explanations of the immune system and many excellent, evidence based illustrations.

The book is divided into five sections. "Part One, Introduction to Immunobiology and Innate Immunity," includes the following chapters: "Basic Concepts in Immunology (Chapter 1)," "The Innate Immunity: The First Line of Defense (Chapter 2)" and "The Induced Response to Innate Immunity (Chapter 3)." The Part One contains the recent discovery of the innate sensing and innate immune responses and the latest findings on innate lymphoid cells.

"Part Two, The Recognition of Antigen" opens with a discussion of antigen recognition by B and T cell receptors (Chapter 4), followed by chapters on the generation of lymphocyte antigen receptors (Chapter 5) and antigen presentation to lymphocytes (Chapter 6). Chapter 4 discusses the antibody structure, the interaction of antibody molecule with specific antigen, antigen recognition by T cells. Chapter 5 deals with immunoglobulin and T cell receptor gene rearrangement and evolution of the adaptive immune response. Chapter 6 covers the generation of $\alpha\beta$ T cell receptor ligands and the major histocompatibility complex and functions.

"Part Three, Understanding T and B Lymphocyte Development," opens with an exploration of lymphocyte receptor signaling (Chapter 7) and ends with the development of B and T lymphocytes (Chapter 8). Comprehensive discussions and key issues relating to the cell signaling are highlighted at the beginning of Chapter 7. The last part of Chapter 7 deals with when a naïve lymphocyte encounters its specific antigen, co-stimulatory molecules, and inhibitory receptors on T and B cells. To help readers, the authors have included

fundamental principles of T and B lymphocyte development, followed by a discussion of positive and negative selection of T cells in Chapter 8.

“Part Four, The Adaptive Immune Response”, includes chapters on T cell mediated immunity (Chapter 9), the humoral immune response (Chapter 10), integrated dynamics of innate and adaptive immunity (Chapter 11), and the mucosal immune system (Chapter 12). The antigen dependent lymphocyte development and function of effector or memory lymphocyte are discussed in Chapters 9-11. At the beginning of Chapter 12, they discuss updates of the nature and structure of the mucosal immune system. The mucosal immune system is the huge and complex apparatus that has a multiple roles of protecting internal surfaces of the body and preventing diseases. A full description of the mucosal response to infection and immunoregulatory mechanisms of mucosal immune responses is incorporated in the Chapter 12.

Finally, in “Part Five, The Immune System in Health and Disease,” the authors focus on “Failures of Host Defense Mechanisms (Chapter 13),” “Allergy and Allergic Diseases (Chapter 14),” “Autoimmunity and Transplantation (Chapter 15),” and “Manipulation of the Immune Response (Chapter 16).” Chapter 13 integrates the topic of immunodeficiencies and covers the latest findings on the treatment of immune evasion by pathogens and HIV/AIDS. Up-to dated information related to IgE mediated and non-IgE mediated allergic diseases is reported in Chapter 14. Chapter 15 includes a detailed discussion of advances, trends of autoimmunity, self tolerance mechanisms, the relationship between autoimmunity and infectious diseases and transplant rejection. Chapter 16 highlights keys issues relating to the agents used to manipulate immune responses. It also reports on the advantages and disadvantages of the

treatment of unwanted immune responses, including the recent development of monoclonal antibodies for immunotherapy and the development of monoclonal antibody therapy and biologic modifiers for autoimmune diseases and cancer.

“Appendix I: The Immunologist’s Toolbox” deals with the principles of basic immunological assays and experiments, including ELISA, precipitin reaction, hemagglutination and blood typing, flowcytometry, and other advanced technique. Appendices II-IV includes a concise list of CD antigens, cytokines, chemokines, and their receptors.

All together, the textbook provide readers with a complete update on recent understanding of the immune system. The ninth edition contains the latest information and material on many topics, ranging from immune effector modules, $\gamma\delta$ T cells, chemokine networks, tissue resident memory T cells, Akt and mTOR signaling, mucosal immunity, infection to immunity, HIV/AIDS, and cancer immunotherapy. More than one hundred new figures are included in the textbook.

In the textbook, the students and medical professionals will find very important sets of self-checking quizzes such as: multiple choice and true or false questions, word matching and fill-in-the-blanks, short answers, and essays. A question bank is provided with each chapter, giving an excellent follow-up to the chapter topics and reinforcing the material for the reader.

The key to *Janeway’s Immunobiology* is the brilliant videos and animations, which are simple enough to understand the cellular processes, mechanisms of innate and adaptive immunity, T cell development, TLR signaling, and dendritic cell activation. Each chapter contains reference lists for further detailed reading.

Immunology is tough science, but it is very attractive and applicable. Enjoy the textbook!