Color Atlas of Immunology

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Immunology is an extremely dynamic discipline with rapid research developments unparalleled by those of most other fields. Nowadays, we still live to a ripe old age despite hostile attacks by myriads of pathogenic organisms. Immunological mechanisms have become highly sensitive and specific in the process. This color atlas of immunology graphically depicts these mechanisms. Its main goal is to explain the diverse interactions between the fundamental principles and the laboratory and clinical applications of immunology so as to create a vivid mental picture of such concepts.

The atlas is divided into three main segments: Fundamental principles, Laboratory applications and Clinical Immunology.

The fundamental principles section begins with an overview of the origins of cells of the immune system, description of the organs of the immune system, followed by detailed explanation of T and B-lymphocyte development and differentiation. A description of surface molecules, cell to cell interactions, and non-specific defense cells including natural killer follows. Next, the human lymphocyte antigen (HLA) system is analyzed, followed by the principles of antigen presentation and hypersensitivity reactions. Autoimmunity,

tolerance and apoptosis are described in the later part of this section. The laboratory applications section describes the most important and relevant immunological tests and assays. "Conventional" methods, such as precipitation, agglutination and complement-binding reactions are presented first. "Newer", state-of-the-art methods are described later and include immunoblotting, cellular immunology assays, and functional assays. Finally, several molecular biology tests are described. The clinical immunology section, which comprises almost two thirds of this atlas, describes immunodeficiencies and the essential immunological features of many disorders involving most organ systems of the body, with emphasis on hematology and rheumatology. A final chapter on immune pharmacology is presented.

The atlas includes 131 full-page color plates accompanied by explanatory texts on the facing pages, in addition to 9 detailed tables. The harmonization in the color plates is obvious, and the visual elements are not overloaded with internal structures. Uniform symbols are used to represent the various cells systems as well as their receptors and products.

This book/atlas targets students of medicine and biosciences, as well as physicians and bioscientists.