

Dendritic Cells in Fundamental and Clinical Immunology: Life in Venice

Under the leadership of Paola Ricciardi-Castagnoli, 500 scientists from 24 countries gathered in Venice a little more than a year ago for the fourth international meeting in this field. Dr. Ricciardi-Castagnoli succeeded brilliantly in sustaining the efficacy and enjoyment of prior meetings that had been organized in Japan, Holland, and France. The participants must have felt an unusual sense of good fortune: the venue provided by the romantic Lido island where T. Mann wrote *Death in Venice*, warm hospitality buoyed further by daily boat trips to the city, and the undulating survey of dendritic cell research that has become more stimulating than the cells themselves.

Ninety-four short chapters, succinctly portrayed in the Plenum Press publication *Dendritic Cells in Fundamental and Clinical Immunology, Volume 3*, also termed *Advances in Experimental Medicine and Biology, Volume 417*, provide a sparkling overview of current horizons. Less than half the chapters are from the invited speakers, and the others are from short presentations selected from the many abstracts that were submitted. So the breadth of the book is excellent. Many chapters contain useful tables and illustrative data. The publication is divided into sections that deal with dendritic cell development and migration, antigen uptake and presentation, tolerance, cytokine networks, viral infections, molecular specializations, immune therapy, and follicular dendritic cells.

A major take home message of this volume is the current vigor of this field. Boosted by new techniques to generate large numbers of dendritic cells from proliferating marrow progenitors and from nonproliferating blood monocytes, scientists at last have adequate

numbers of these potent and specialized antigen presenting cells for many studies. Some of the emerging themes that are covered are as follows. The maturation of dendritic cells is being dissected in cell biological terms, and is ascribed to cytokines, tumor necrosis factor family members, and bacterial signals. Langerhans cell experts will be excited by the new role for transforming growth factor beta in Langerhans cell development, the production of bona fide Langerhans cells from bone marrow progenitors, and the role for Fc epsilon receptors in antigen presentation. The mannose receptor for adsorptive endocytosis and abundant major histocompatibility complex class II rich compartments highlight new insights on antigen capture and presentation by dendritic cells. The mobilization and migration of dendritic cells is followed in new species, over new routes, and via a newly implicated alpha6 integrin. Molecular genetics is beginning to be applied to identify dendritic cell restricted products. Concepts of separate myeloid and lymphoid developmental pathways imply distinct roles in immunogenicity and tolerance. Medical applications emphasize the use of dendritic cells as adjuvants for immunotherapy, but other chapters also deal with infectious diseases, transplantation, and contact allergy. This book is a vital one for current investigators in the field, and for others wanting an easy introduction to help chart their course through an expanding area of immunobiology.

Ralph M. Steinman, M.D.

Laboratory of Cellular Physiology and Immunology,
Rockefeller University, New York, New York

Volume 417 DENDRITIC CELLS IN FUNDAMENTAL AND CLINICAL IMMUNOLOGY, Volume 3. Edited by Paola Ricciardi-Castagnoli. A Continuation Order Plan is available for this series. These proceedings contain selected contributions from the participants to the Fourth International Symposium on Dendritic cells that was held in Venice (Lido) Italy, from October 5 to 10, 1996. The symposium was attended by more than 500 scientists coming from 24 different countries. Studies on dendritic cells (DC) have been greatly hampered by the difficulties in preparing sufficient cell numbers and in a reasonable pure form. Clinical Immunology and Allergology: with the basics of common immunology. Moscow: "Geotar Media" Publ., 2010. (In Russian). Toll-like receptor, MHC II, B7 and cytokine expression by porcine monocytes and monocyte-derived dendritic cells in response to microbial pathogen-associated molecular patterns. Veterinary Immunology and Immunopathology 2005;107(3-4):235-47. DOI: 10.1016/j.vetimm.2005.05.008. Ninety-four short chapters, succinctly portrayed in the Plenum Press publication Dendritic Cells in Fundamental and Clinical Immunology, Volume 3, also termed Advances in Experimental Medicine and Biology, Volume 417, provide a sparkling overview of current horizons. Less than half the chapters are from the invited speakers, and the others are from short presentations selected from the many abstracts that were submitted.