
PREFACE

Two hundred and sixteen individual chapters dedicated to different cytometric methodologies were published since 1990 in the six cytometry-committed volumes of the series of *Methods in Cell Biology* (MCB; Volumes 33, 41, 42, 63, 64, and 75). The editors of these volumes attempted to assemble chapters describing the most widely used methods of flow- and quantitative image-cytometry. The chapters outlined principles of these methods, their applications, advantages, as well as possible pitfalls in their use, and presented them to the forum of cell biologists. Within the series of MCB, these volumes received wide readership, high citation rates, and were valuable in promoting cytometric techniques among cell biologists across different fields.

The exceptionally high interest in the MCB chapters on cytometry prompted the Publisher to propose a special edition of the "*Essential Cytometry Methods*" within the framework of the new series of volumes defined "*Reliable Lab Solutions*." This volume presents the chapters describing the most frequently used methods among those presented in the previous volumes. The chapters were selected based on high frequency of citations and relevance of the methodology. Since most these methods are still widely used, such an edition is contemporary and will be of use to many, particularly to young investigators who are starting to use the methods of cytometry in their research.

Authors of this volume were asked to update their chapters by providing a short foreword to the original text and make corrections in the text, if needed. The update highlights in brief progress in the methodology, novel reagents, new applications, and sister methodologies developed since the original publication. Additional references essential for the presentation of the update are included. Because some authors, particularly of the chapters early published, in MCB volumes 33, 41, and 42, could not be reached, their chapters remain without the update. Some chapters were updated by the Editors who are familiar with the methodology described in them.

Applications of cytometric methods have had a tremendous impact on research in various fields of cell and molecular biology, immunology, microbiology, and medicine. We hope that this volume will be of help to many researchers who need these methods in their investigation, stimulate application of the methodology in new areas, and promote further progress in science.

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