Jaroszeski, M.J., Heller, R. (ed.): **Flow Cytometry Protocols**. Methods in Molecular Biology, 91. - Humana Press, Totowa 1998. 274 pp. US $ 69.00. ISBN 0-89603-354-6.

The 91st volume of the series Methods in Cell Biology (series editor J.M. Walker) is dedicated to the application flow cytometry. The technique was originally developed for rapid counting of blood cells. With the technical evolution and development of new fluorescent probes it became a useful tool in many areas of research. The unique advantage of flow cytometry is that the analysis of optical properties of particles (fluorescence, light scatter) is performed on a single particle basis and thus detection of subpopulations is possible. Furthermore, some types of flow cytometers can be used to sort defined subpopulations of particles (cells, subcellular organeless) for subsequent analysis. The number of applications of flow cytometry is rapidly increasing and it appears that analysis of any cellular structure or function is possible as long as a suitatle is available.

The book begins with a chapter describing the basics of flow cytometry. The remaining twenty-one chapters describe individual protocols. In addition to a detailed protocol, each chapter contains a short introduction, useful notes and a list of references. Five chapters present protocols for detection of terminal transferase in leukemia, intracellular cytokines, intracellular/intracellular antigens in leukemia and tumours, and cyclins. Six chapters are dedicated to functional studies. These include protocols for assessing cellviability, transmembrane potential, oxidative metabolism, environmental particulate uptake, drug resistance, and pharmacokinetics. Three chapters present protocols for quantitating electroinserted proteins, electropermeabilisation, and cell-cell fusion. Six additional chapters give protocols for examining nucleic acids, namely the analysis of cell cycle, DNA/RNA analysis of solid malingancies, *in situ* hybridisation, apoptosis, and chromosome analysis and sorting. The last chapter is dedicated to an advanced protocol for five-six colour multiparameter analysis.

It is impossible to cover all applications of flow cytometry in one book. Nevertheless, guest editors, M.J. Jaroszeski and R. Heller, succed in assembling a representative collection of protocols focused on structural and functional analysis of human and animal cells. The book is well arranged and produced and is supplemented with a medium-size subject index.

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