

Galbraith, D.W., Bourque, D.P., Bohnert, H.J. (ed.): **Methods in Plant Cell Biology, Part B.** - Academic Press. San Diego - New York - Boston - London - Sydney -Tokyo - Toronto 1995. 555 pp. US \$ 99.00. ISBN 0-12-564152-4.

This book is the Volume 50 of the Methods in cell biology series, edited by L. Wilson and P. Matsudaira. It consists of two main parts: Subcellular fractionation and analysis of function, and Molecular methods for analysis of cell function *in vivo*. They contain together as many as 37 chapters. Each chapter begins with a theoretical basic introduction to the particular topic, followed by a description of materials, equipment and all procedures used. The methods are given in great detail so it is quite easy to follow them even for not very experienced person. Further, typical results are supplied and discussed with description of critical aspects of each procedure. The chapters are closed with conclusion and even perspectives.

The book contains the most recent and advanced methods used in plant cell research. In the first part, flow cytometry is involved for analysis of transgene expression as well as for flow karyotyping and sorting. Also isolations of several plant cell organelles and structures are given for further studies and analyses (e.g., nuclei, chloroplasts, mitochondria, plasma membrane, vacuolar ATPase, chromoplasts, polyribosomes, cytoskeleton, plasmodesmata). Moreover, methods for studying protein synthesis, transport, targeting and import into organelle, protein-protein interaction are involved.

The second part contains mainly methods for transformations of plant cell genome including electroporation, particle bombardment, PEG-mediated gene transfer, and to the opposite, expression of plant proteins in baculoviral and bacterial systems and in *Saccharomyces*. Also novel inducible/repressible gene expression systems with aid of specific plasmids are described. Methods for using of several reporter genes for analysis of plant developmental processes is further involved. This part is complemented with cell-specific ablation in plants. One chapter is devoted to study of plant ribozymes.

The book is written by experts for particular field very clearly and thus is quite understandable and comprehensible. Each chapter is dealt critically, it is complemented with necessary full references and many nice illustrations. The book describes modern up to date methods in plant cell biology and therefore it can be recommended to researcher as well as student of plant cell biology.

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