

Microinjection and Transgenesis

The technique of microinjection is routinely used nowadays to transfer biological materials - proteins, oligonucleotides, RNA and DNA - into cultured somatic cells and embryos. The application of microinjection to single-cell experiments and to the production of transgenic animals has opened new avenues in the study of a wide range of cellular and developmental processes, such as oncogenic transformation, gene expression and signal transduction.

This book provides over 100 comprehensive protocols for microinjection and useful auxiliary techniques, as well as the most relevant strategies that make this field a highly productive area of biological and biotechnological research.

Special topics are: updated descriptions of microinjection setup and techniques, SPF mouse husbandry, analysis of injected cells by conventional, video and electron microscopy, handling of stem cells, morula aggregation, embryo freezing and storage, use of YACs to produce transgenic mice, site-specific recombination in ES cells regulation of gene expression in preimplantation embryos, transgenic mice in virology and immunology research, production of transgenic rabbits and flies, etc.

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