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Manipulating the Mouse Embryo

A LABORATORY MANUAL

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Description

Regarded as the "Bible" of mammalian embryo manipulation techniques since the 1986 publication of the first edition of Manipulating the Mouse Embryo: A Laboratory Manual, the third edition of this essential laboratory resource has now been completely reorganized, rewritten, and updated by a new cast of authors. The result is a compilation of new, cutting-edge protocols that include embryonic stem cell production and genetic manipulation; mouse chimeras; mouse cloning; assisted reproduction strategies (including intracytoplasmic sperm injection and in vitro fertilization); whole embryo culture systems; electroporation; embryo and gamete cryopreservation and rederivation; and gene expression, as well as more extensive background information on the use of these techniques. The "gold standard" techniques for applying recombinant DNA technology to investigations of mammalian embryonic development included in the first two editions of this book are also updated and recast, as is the summary of the current state of understanding of mouse development at the molecular level. This book is the premier authoritative and comprehensive source of technical and theoretical guidance for mouse developmental biologists and geneticists and is an essential resource for newcomers to these fields.

Key features of the third edition:

* New authors are leading authorities in mouse development and genetics, as were authors of prior editions.
* All new illustration and new design: All illustrations have been redrawn; extensive use of new illustrations and photographs of techniques and results; a new, contemporary design presents techniques more clearly.
* New explanatory text: More background information for techniques is presented as well as more extensive troubleshooting information.
* New, functional organization and techniques.

Reviews

"This manual will become rapidly a reference and find its place in most laboratories. It is usually difficult to reach broad consensus within the scientific field. However, I am sure that the current edition of this classical manual will delightfully and equally satisfy research scientists and specialized technicians within the field of mouse embryology and transgenesis. Undoubtedly, at present, this manual should be the first recommendation to any person willing to work with transgenic or knockout mice."

Transgenic Research

"This manual is a welcome update, which grew out of teaching material for two practical courses in the Molecular Embryology of the Mouse held at Cold Spring Harbor Laboratory in 1983 and 1984. The previous editions of what is affectionately known as the 'Mouse Manual' became and remain the definitive reference sources on this subject. The current authors have taken the mantle of authorship from Brigid Hogan, Rosa Beddington, Frank Costantini, and Elizabeth Lacy and have extensively reorganized and rewritten the new edition. It contains 267 more pages than the second edition, which is largely reflective of the significant advances that have occurred since 1994. This is not just a 'how-to' manual for those who seek to manipulate the mouse embryo and genome, but a useful, concise reference on mouse laboratory strain origins, genetics, and embryology and their places in contemporary biology and medicine."

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