

Series Editor: John M. Walker

Transgenesis Techniques

Principles and Protocols

SECOND EDITION

Edited by

Alan R. Clarke*School of Biosciences, Cardiff University, Cardiff, UK***From Reviews of the First Edition***"...a must in any laboratory..." —Cellular and Molecular Biology**"...should be useful to anyone currently involved in using transgenesis as a technique..." —Journal of Heredity*

The past decade has witnessed a spectacular explosion in both the development and the use of transgenic technologies. In *Transgenesis Techniques: Principles and Protocols, Second Edition*, authoritative researchers—including members of the Dolly team—take stock of these exciting developments to present a collection of readily reproducible techniques for the generation and analysis of transgenic animals, focusing on the manipulation of the mammalian genome. This second edition devotes much space to the creation of genetically modified murine strains, providing access to the germline both by conventional pronuclear injection and by retroviral and adenoviral infection. Extensive coverage is also given to the generation, maintenance, and manipulation of embryonic stem cell lineages, with protocols for both constitutive and conditional (Cre-lox or the Flp-frt systems) gene targeting. Additional chapters provide cutting-edge techniques for the cryopreservation of both male and female germlines, for the generation of transgenic sheep by nuclear transfer, and for the basic analysis of transgenic organisms.

Comprehensive and highly practical, this second edition of *Transgenesis Techniques: Principles and Protocols* updates and expands the acclaimed first edition with a wealth of easy-to-follow cutting-edge protocols and practical tips for producing transgenic animals and analyzing their integrated transgenes.

FEATURES

- Cutting-edge protocols for generating and maintaining genetically modified murine strains
- Emphasis on manipulation of the mammalian genome
- Techniques for cloning, conditional transgenesis, and cryopreservation of germlines
- Readily reproducible techniques described in step-by-step detail to ensure successful results

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