

Animal Biotechnology

Models in Discovery and Translation

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KEY FEATURES

- Highlights the latest biomedical applications of genetically modified and cloned animals, with a focus on cancer and infectious diseases
- Provides firsthand accounts of the use of biotechnology tools, including molecular markers, stem cells, and tissue engineering

Animal Biotechnology introduces applications of animal biotechnology and their implications for human health and welfare. It begins with an introduction to animal cell cultures and genome sequencing analysis and provides readers with a review of available cell and molecular tools. Topics include the use of transgenic animal models, tissue engineering, nanobiotechnology, biomolecular display technology and epigenetics. The book then delivers in-depth examples of applications in human health and prospects for the future, including cytogenetics and molecular genetics, xenografts, and treatment of HIV and cancers. All this is complemented by a discussion of the ethical and safety considerations in the field along with translational significance.

Animal biotechnology is a broad field encompassing the polarities of fundamental and applied research, including molecular modeling, gene manipulation, development of diagnostics and vaccines, and manipulation of tissue. Given the tools that are currently available and the translational potential for these studies, animal biotechnology has become one of the most essential subjects for those studying life sciences.



ACADEMIC PRESS

An imprint of Elsevier
store.elsevier.com

ISBN 978-0-12-416002-6



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