

Animal Biotechnology

Second Edition

Models in Discovery and Translation

Edited by **Ashish S. Verma and Anchal Singh**

The development of new genomic and molecular tools and their translational potential for human health has resulted in rapid advances in animal biotechnology, making it an essential knowledge area for those conducting translational biomedical research. *Animal Biotechnology: Models in Discovery and Translation, Second Edition* provides a helpful guide to everyone who is new to the field or seeking a thorough review of animal biotechnology and its application to human diseases and welfare. This updated edition covers vital fundamentals including animal cell cultures, genome sequencing analysis, epigenetics and animal models, gene expression, ethics and safety concerns, and in-depth examples of implications for human health and prospects for the future. Fully revised and all-new chapters speak to animal biotechnology as applied to various disease types and research areas, including antibodies, in vitro fertilization, human embryonic stem cell research, biosensors, enteric diseases, biopharming, organ transplantation, tuberculosis, neurodegenerative disorders, cancer, HPV, HIV, aging, and euthanasia.

- Highlights latest biomedical applications of genetically modified and cloned animals with a focus on cancer and infectious diseases
- Offers first-hand accounts of the use of biotechnology tools including molecular markers, animal cultures, tissue engineering, next generation sequencing, bimolecular display technology, and CAM assay
- Includes case studies that illustrate safety assessment issues, ethical considerations, and intellectual property rights associated with the translation of animal biotechnology studies
- Provides a helpful guide to students and researchers who are new to the field or those seeking a thorough introduction to animal biotechnology applications and their translational potential
- This fully revised, all-new edition speaks to various disease types and methods, including animal biotechnology as applied to in vitro fertilization, human embryonic stem cell research, human genome, biosensors, enteric diseases, biopharming, marine biotechnology, organ transplantation, tuberculosis, nanotechnology, neurodegenerative disorders, cancer, HPV, HIV, aging, and euthanasia

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