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INTRODUCTION; ANALYTICAL TOOLS FOR THE DETECTION OF FOOD-BORNE DISEASE; AN INVITRO SYSTEM TO ASSESS ADVERSE EFFECTS DURING DEVELOPMENT; DISEASES-IN-A-DISH; NONINVASIVE IMAGING AND RECORDING; CONCLUSIONS; References; Chapter 4 - Environmental Enrichment for Animals Used in Research; INTRODUCTION; APPLIED SCIENCE: ENRICHMENT AS A WELFARE TOOL; BASIC SCIENCE: ENRICHMENT AND ANIMAL MODELS; ENRICHMENT AND EXPERIMENTAL VARIABILITY; ENVIRONMENTAL ENRICHMENT REGULATIONS; IMPLEMENTING AN ENRICHMENT PLAN; CONCLUSIONS; Acknowledgments
References Part II -VISION; Chapter 5 - Animal Models of Age-Related Macular Degeneration; INTRODUCTION; COMPARATIVE RETINAL ANATOMY AND THE PATHOLOGY OF AMD; THE GENETICS OF AMD; INFLAMMATION IN AMD; HTRA1 AND LOC387715/ARMS2 IN AMD; OXIDATIVE DAMAGE AND AMD; LIPID METABOLISM AND AMD; SPONTANEOUSLY OCCURRING PRIMATE MODELS OF AMD; MODELING CHOROIDAL NEOVASCULARIZATION IN ADVANCED AMD; CONCLUSION; References; Chapter 6 - N-Methyl-N-Nitrosourea Animal Models for Retinitis Pigmentosa; INTRODUCTION; TIME-COURSE PROGRESSION OF MNU-INDUCED RETINAL DEGENERATION
RETINAL DEGENERATION CAUSED BY MNU IN VARIOUS ANIMAL SPECIESAGE-RELATED PHOTORECEPTOR CELL DAMAGE AND SENSITIVITY TO MNU; PHOTORECEPTOR CELL DEATH, CELL DEBRIS REMOVAL, AND RPE CELL MIGRATION; MOLECULAR MECHANISMS IN PHOTORECEPTOR CELL DEATH CAUSED BY MNU; THERAPEUTIC TRIALS AGAINST MNU-INDUCED PHOTORECEPTOR APOPTOSIS; CONCLUDING REMARKS; Acknowledgments; References; Part III -CARDIAC AND CARDIOVASCULAR; Chapter 7 - Animal Models of Myocardial Disease; INTRODUCTION; THE SPECTRUM OF CARDIOVASCULAR DISEASE; CHOICE OF ANIMAL SYSTEM; EXPERIMENTAL DESIGN; ISCHEMIC HEART DISEASE
SYSTOLIC HEART FAILURE

Sommario/riassunto

Animal Models for the Study of Human Disease identifies important animal models and assesses the advantages and disadvantages of each model for the study of human disease. The first section addresses how to locate resources, animal alternatives, animal ethics and related issues, much needed information for researchers across the biological sciences and biomedicine. The next sections of the work offers models for disease-oriented topics, including cardiac and pulmonary diseases, aging, infectious diseases, obesity, diabetes, neurological diseases, joint diseases, visual disorders, cancer
