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Nota di contenuto	The Colors of Mice; Contents; Preface; Acknowledgments; Statement regarding the use of pictures; Statement regarding nomenclature; Part I Introduction to the Pigmentary System; 1 Introduction to the Pigmentary System; 1.1 Introduction; 1.2 Colors of vertebrate animals; 1.3 Other pigment cells; 1.4 The epidermal melanin unit; 1.5 Mammalian hair; 1.6 Melanosome biogenesis and translocation; 1.7 Melanin; 1.8 Hair growth; 1.9 Hair growth cycles; 1.10 Embryonic development of the pigment cell lineage; 1.11 Pigment cells in culture; 1.12 Conclusion; Appendix: color loci of the mouse Part II The Pigmentary Loci2 Introduction to Mutant Pigmentary Genes; 2.1 Defects of normal melanocyte development: white spotting and graying with age; 2.2 Defects in normal melanosome development: albinism; 2.3 Transport of melanosomes to other cells: the 'dilute' phenotype; 2.4 Pigment-type switching: from eumelanogenesis to pheomelanogenesis; 3 White Spotting and Progressive Graying; 3.1 Definitions and general background; 3.2 Pigment-cell development: developmental biology; 3.3 Cellular signaling pathways for melanocytes; 3.4 Pigment phenotypes and the classical white-spotting

genes

3.5 The head, heart, ears, and eyes4 'Albinism' and the Failure of Normal Melanosome Maturation; 4.1 Background; 4.2 The melanosomal matrix; 4.3 The enzymes that catalyze melanogenesis; 4.4 Membrane proteins that regulate the internal milieu of the melanosome; 4.5 Protein processing and routing to the maturing melanosome; 4.6 Melanosome transport; 5 Pigment-Type Switching; 5.1 Introduction; 5.2 Yellow phenotypes; 5.3 Melanin pigment; 5.4 Melanogenesis and the eumelanin/pheomelanin switch mechanism; 5.5 Signaling the switch mechanism at the cellular level; 5.6 Yellow genes  
Part III Technology and Resources6 Novel Mouse Pigmentary Mutants Generated by Genetic Manipulation; 6.1 Introduction; 6.2 Mouse transgenesis: generation of genetically engineered mice; 6.3 Coat-color transgenic mice; 6.4 The coat-color mutants generated by gene targeting; 6.5 Influence of the genetic background; 6.6 Conclusions; 7 Other Species and Other Resources; 7.1 Introduction; 7.2 Resources; 7.3 Other species; References; Index

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Sommario/riassunto

Serving the needs of pigment cell biologists, cellular physiologists, developmental geneticists, researchers interested in melanoma and more, this new book showcases a blend of new technologies and new insights in the field of pigmentary genetics of mice, with comparative information on other animals. Graduate students can learn here the terminology and scope of the field, and animal fanciers can discover the genetics behind common color variants of mammals. The book is hailed for being written by four of the premier scientists in the field. These authors aim to present the molecular /cellular

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