

1. Record Nr.	UNINA9911018924603321
Titolo	Genetic and molecular aspects of sport performance // edited by Claude Bouchard and Eric P. Hoffman
Pubbl/distr/stampa	Chichester, West Sussex [England] ; ; Hoboken, NJ, : Wiley-Blackwell, 2011
ISBN	9786612914171 9781444348293 1444348299 9781282914179 1282914170 9781444327335 144432733X 9781444327342 1444327348
Descrizione fisica	1 online resource (420 p.)
Collana	Encyclopaedia of sports medicine ; ; v. 18
Altri autori (Persone)	BouchardClaude HoffmanEric P
Disciplina	612/.044
Soggetti	Sports - Physiological aspects Exercise - Physiological aspects Human genetics Athletic ability
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	"An IOC Medical Commission publication."
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Genetic and Molecular Aspects of Sport Performance; Contents; List of Contributors; Foreword; Preface; Part 1 The Science of Genomics and Genetics; 1 The Human Genome and Epigenome; 2 Mitochondrial Medicine in Health and Disease: Interface Between Athletic Performance and Therapeutics; 3 Characterizing the Extent of Human Genetic Variation for Performance-Related Traits; 4 Current Proteome Profiling Methods; 5 Bioinformatics and Public Access Resources; 6 Search for Genes Influencing Complex Traits; Part 2 Evidence from Genetic Epidemiology Studies

7 Genetic Epidemiology, Physical Activity, and Inactivity8 Role of Genetics Factors in Sport Performance: Evidence from Family Studies; 9 Twin Studies in Sport Performance; 10 Twin and Family Studies of Training Responses; 11 Ethnic Differences in Sport Performance; 12 Selection Experiments in Rodents to Define the Complexity and Diversity of Endurance Capacity; Part 3 Contributions of Specific Genes and Markers; 13 Genes and Endurance Performance; 14 Genes and Strength and Power Phenotypes; 15 Genes and Response to Training 16 Genetic Determinants of Exercise Performance: Evidence from Transgenic and Null Mouse Models17 The ACE Gene and Performance; 18 The ACTN3 Gene and Human Performance; 19 Mitochondrial DNA Sequence Variation and Performance; 20 Genes, Exercise, and Lipid Metabolism; 21 Genes, Exercise, and Glucose and Insulin Metabolism; 22 Genes, Exercise, and Cardiovascular Phenotypes; 23 Genes, Exercise, and Protein Metabolism; 24 The Regulation of Physical Activity by Genetic Mechanisms: Is There a Drive to Be Active?; 25 Genes, Exercise, and Psychological Factors
Part 4 Systems Biology of Exercise and Training26 A Primer on Systems Biology, as Applied to Exercise Physiology and Metabolism; 27 Systems Biology Through Time Series Data-A Strength of Muscle Remodeling; 28 Proteomics in Exercise Training Research; 29 The Influence of Physical Exercise on Adult Stem Cells; Part 5 Ethical and Societal Implications; 30 Genetics and Ethics in Elite Sport; 31 Genes and Talent Selection; 32 Performance Enhancement by Gene Doping; 33 Bioethical Concerns in a Culture of Human Enhancement; Index; A; B; C; D; E; F; G; H; I; J; K; L; M; N; O; P; Q; R; S; T; U; V; W
XY; Z

Sommario/riassunto

This is the latest volume in the IOC Encyclopaedia of Sports Medicine series, summarizing the evidence from all relevant sources on the genetic and molecular basis of sports and other human physical performance. The initial chapters address the basic science of genomics and genetics and the regulation of gene expression. Additional chapters provide authoritative information on the genetics of complex performance phenotypes, the contributions of small animal research, family and twin studies, and ethnic comparisons. A final section addresses the issue of the contribution of specific
