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Titolo	Genome Editing [[electronic resource] /] / edited by Kursad Turksen
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Descrizione fisica	1 online resource (IX, 166 p. 24 illus. in color.)
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Soggetti	Regenerative medicine Tissue engineering Stem cells Animal genetics Regenerative Medicine/Tissue Engineering Stem Cells Animal Genetics and Genomics
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
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Nota di bibliografia	Includes bibliographical references at the end of each chapters and index.
Nota di contenuto	Genome Editing with Targetable Nucleases -- CRISPR/Cas9 Approaches to Investigate the Non-coding Genome -- At the Conflux of Human Genome Engineering and Induced Pluripotency -- CRISPR/Cas9 and the Paradigm Shift in Mouse Genome Manipulation Technologies -- Genome Editing Technology in CRISPR/Cas System: How to Increase Knock-in Efficiency in Mouse Zygotes -- Developments in the Generation of Reporter Stem Cells -- Current Status of Genome Editing in Cardiovascular Medicine -- Using CRISPR-Cas9 Genome Editing to Enhance Cell Based Therapies for the Treatment of Diabetes Mellitus -- Genome Editing in the Retina: a Case Study in CRISPR for a Patient-Specific Autosomal Dominant Retinitis Pigmentosa Model -- Index.
Sommario/riassunto	This timely volume explores the use of CRISPR-Cas9 for genome editing, presenting cutting-edge techniques and their applications in treatment of disease. The chapters describe latest methods such as use of targetable nucleases, investigation of the non-coding genome,

mouse genome editing, increasing of knock-in efficiency in mouse zygotes, and generation of reporter stem cells; the text contextualizes these methods in treatment of cardiovascular disease, diabetes mellitus, retinitis pigmentosa, and others. The final chapters round out the book with a discussion of controversies and future directions. Genome Editing is an essential, of-the-moment contribution to this rapidly growing field. Drawing from a wealth of international perspectives, it presents novel techniques and applications for the engineering of the human genome. This book is essential reading for all clinicians and researchers in stem cells, regenerative medicine, genomics, biochemical and biomedical engineering- especially those interested in learning more about genome editing and applying it in a targeted, specific way.