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Titolo	The ABCs of Gene Cloning / / by Dominic W. S. Wong
Pubbl/distr/stampa	Cham : , : Springer International Publishing : , : Imprint : Springer, , 2018
ISBN	3-319-77982-6
Edizione	[3rd ed. 2018.]
Descrizione fisica	1 online resource (XIX, 257 p. 172 illus., 1 illus. in color.)
Disciplina	611.01816 599.935
Soggetti	Human genetics Food—Biotechnology Plant physiology Zoology Human Genetics Food Science Plant Physiology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Fundamentals of Genetic Processes -- Introductory Concepts -- Structures of Nucleic Acids -- Structures of Proteins -- The Genetic Process -- Organization of Genes -- Reading The Nucleotide Sequence of a Gene -- Techniques and Strategies of Gene Cloning -- Enzymes Used in Cloning -- Techniques Used in Cloning -- Cloning Vectors for Introducing Genes into Host Cells -- Transformation -- Isolating Genes for Cloning -- Impact of Gene Cloning -- Improving Tomato Quality by Antisense Rna -- Transgenic Crops Engineered with Insecticidal Activity -- Transgenic Crops Conferred with Herbicide Resistance -- Growth Enhancement in Transgenic Fish -- Impact of Gene Cloning -- Microbial Production of Recombinant Human Insulin -- Finding Disease-Causing Genes -- Human Gene Therapy -- Gene Targeting -- DNA Typing -- Transpharmers - Bioreactors for Pharmaceutical Products -- Animal Cloning -- Human Genome Sequencing -- Manipulating Gene Vector Constructs.
Sommario/riassunto	Clear and concise, this easy-to-use book offers an introductory course

on the language of gene cloning, covering microbial, plant, and mammalian systems. It presents the nuts and bolts of gene cloning in a well-organized and accessible manner. Part I of this book outlines the essentials of biology and genetics relevant to the concept of gene cloning. Part II describes common techniques and approaches of gene cloning, ranging from the basic mechanics of DNA manipulation, vector systems, process transformation, to gene analysis. Part III & IV present application technologies of major impact in agriculture, biomedicine, and related areas. The ABCs of Gene Cloning, Third Edition contains updates including a tutorial chapter on gene-vector construction, methodologies on exome sequencing in finding disease genes, revised topics on gene therapy and whole genome sequencing, new developments for gene targeting and genome editing, as well as the current state of next generation sequencing. With more than 140 illustrations, this new edition provides an invaluable text for students and anyone who have interest in gaining proficiency in reading and speaking the language of gene cloning.

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