

GENOME

A
COMPREHENSIVE
TREATISE

EDITING



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GENOME EDITING: A Comprehensive Treatise provides concise knowledge on genetic manipulation of genome, accomplished in nuclear as well as organellar genomes. Basic principles of genome editing involve induction of double-stranded DNA breaks, with the help of engineered site-specific nucleases, which turn on endogenous DNA repair mechanisms of the cell, and thereby induce site-specific deletions, insertions, disruptions, etc. Hence, it is developed under the broader approach of genome engineering. This book is specially designed as a textbook and reference book, as well. The book will be useful for upper undergraduate and graduate students studying genome editing in agricultural, veterinary and medicinal universities. Teachers and researchers in many disciplines will also get benefited from this book. .

SALIENT FEATURES

- DNA repair mechanisms involved in genome editing discussed
- Different types of oligonucleotides and animals and plant viruses that have been modified to act as donor DNA molecules described
- Detailed discussions on Gene drives, gene expression control, safety issues, regulatory issues and future of genome-editing technology
- Include 2530 references, 50 tables and 261 figures
- Problems listed at the end of each chapter.



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