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Nota di contenuto	CRISPR-Cas Systems : Core Features and Common Mechanisms / Rodolphe Barrangou, Luciano A. Marraffini, and Erik Sontheimer -- Evolutionary Classification of CRISPR-Cas Systems / Kira S. Makarova, Yuri I. Wolf, Eugene V. Koonin -- Molecular Mechanisms of Type I CRISPR-Cas Systems / John van der Oost -- Molecular Mechanisms of Type II CRISPR-Cas Systems / Tautvydas Karvelis and Virginijus Siksnys -- Mechanism of Type III CRISPR-Cas Immunity / Luciano A. Marraffini -- Type V CRISPR-Cas Systems / Morgan Quinn Beckett, Anita Ramachandran, and Scott Bailey -- CRISPR-Cas13 : Biology, Mechanism, and Applications of RNA-Guided, RNA-Targeting CRISPR Systems / Omar O. Abudayyeh -- CRISPR-Cas, Horizontal Gene Transfer, and the Flexible (Pan) Genome / Uri Gophna -- Evasion Tactics Manifested by Bacteriophages against Bacterial Immunity / Joseph Bondy-Denomy -- Regulation of CRISPR-Cas Expression and Function / Leah M. Smith, Aroa Rey Campa, and Peter C. Fineran -- Genome Editing with CRISPR-Cas Systems / Peter Lotfy and Patrick D.

Hsu -- Genetic and Epigenetic Modulation of Gene Expression by CRISPR-dCas Systems / Jasprina N. Noordermeer, Crystal Chen, and Lei S. Qi -- CRISPR Screens / Jonathan D. D'Gama, Joseph S. Park, and Matthew K. Waldor -- CRISPR-Based Antimicrobials / Justen Russell and David Bikard -- Exploiting CRISPR-Cas Systems to Provide Phage Resistance in Industrial Bacteria / Rodolphe Barrangou and Avery Roberts -- Recording Biological Information with CRISPR-Cas Systems / Mariia Y. Cherepkova, Tanmay Tanna, and Randall J. Platt

Sommario/riassunto

"Since their discovery and subsequent development into laboratory tools, CRISPR Cas systems have revolutionized the science of gene editing and their possible applications continue to expand, from basic research to potentially groundbreaking medical and commercial uses. Led by a distinguished team of editors, CRISPR Biology and Applications explores the subject matter needed to delve into this fascinating area. This comprehensive text presents the diversity of CRISPR Cas systems, the underlying biology of these systems, and CRISPR based technologies and applications"--
