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Nota di contenuto	Preface -- mRNA-based vaccines and mode of action -- Self-Amplifying mRNA-Based Vaccine Technology and its Mode of Action -- Formulation and Delivery Technologies for mRNA Vaccines -- Messenger RNA-based vaccines against infectious diseases -- Emerge gate for Therapeutics applications of mRNA based drug -- Clinical Development of mRNA Vaccines: Challenges and Opportunities -- Regulatory Considerations on the Development of mRNA Vaccines.
Sommario/riassunto	The formulation and the technological advancements in RNA biology, chemistry, stability, and encapsulated delivery systems that have enabled the development of fully synthetic mRNA vaccines are discussed in this volume. The applications of the mRNA technology is covered, focusing on infectious diseases but also touching on other indications, such as immunotherapies and molecular therapies. Potent and long-lasting immune responses observed in animal models, encouraging data from early human clinical studies, together with the success of two mRNA-based COVID-19 vaccines support the use of mRNA-based vaccination as an attractive alternative to conventional vaccine approaches. Consequently, the development progress of the technology, particularly on production, capabilities, and clinical development is reviewed. Topics on safety, regulatory issues, and possible challenges to the mRNA vaccination approach round off this book. Thanks to their high potency, the prospect for generic, low-cost manufacturing processes, and entirely synthetic nature, the future for

mRNA vaccines is highly promising. Importantly, mRNA vaccines have the potential to minimize the time between pathogen identification and vaccine release with a huge impact on public health. As the mRNA-based vaccination technology has been progressing rapidly, the book is intended to be an end-to-end review series, covering everything from basic RNA biology and preclinical studies to the manufacturing strategy, clinical development and regulatory approval. It provides established RNA researchers and developers with updates on the latest advancements in the field and allows for a quick but comprehensive overview of this transformative technology, its application, and future potential.
