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Sommario/riassunto

This book aims to cover the applications of nanotechnology against human infectious diseases. The chapters of the book discuss the role of nanotechnology in the efficient diagnosis and treatment of these diseases. It explicitly provides an overview of nanodiagnostics for infectious diseases from nanoparticles-based, nanodevice-based, and point-of-care platforms. The book also covers the state-of-the-art review of recent progress in biomimetic and bioengineered nanotherapies to treat infectious diseases. It also presents a nano carrier-based CRISPR/Cas9 delivery system for gene editing and its applications for developing interventional approaches against communicable diseases. Further, it reviews the recent developments in nanotechnology to engineer nanoparticles with desired physicochemical properties as a line of defense against multi-drug resistance micro-organisms. Cutting across the disciplines, this book serves as a guide for researchers in biotechnology, parasitology, and nanotechnology.