1. Record Nr. UNINA9910298420203321

Titolo	Biotechnological Applications of Quorum Sensing Inhibitors / / edited by Vipin Chandra Kalia
Pubbl/distr/stampa	Singapore : , : Springer Singapore : , : Imprint : Springer, , 2018
ISBN	981-10-9026-2
Edizione	[1st ed. 2018.]
Descrizione fisica	1 online resource (XIII, 473 p. 70 illus., 42 illus. in color.)
Disciplina	579
Soggetti	Microbiology Microbial genetics Microbial genomics Environmental engineering Biotechnology Applied Microbiology Microbial Genetics and Genomics Environmental Engineering/Biotechnology
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di bibliografia	Includes bibliographical references.
Nota di contenuto	A. Human Health -- Inhibition of Quorum-sensing: a new paradigm in controlling bacterial virulence and biofilm formation -- Targeting Quorum Sensing Mediated Staphylococcus aureus Biofilms: A Proteolytic Approach -- Alternative strategies for control of quorum sensing and biofilm formation of pathogenic Pseudomonas aeruginosa by plant, marine and synthetic based quorum sensing inhibitors -- Quorum Quenching and Biofilm Inhibition: Alternative imminent strategies to control the disease Cholera -- Anti-biofilm peptides: A new class of quorum quenchers and their prospective therapeutic applications -- Quorum sensing inhibition: A target for treating chronic wounds -- Efflux pump-mediated quorum sensing—new avenues for modulation of antimicrobial resistance and bacterial virulence -- CRISPR-Cas systems regulate quorum sensing genes and alter virulence in bacteria -- Developing Anti-virulence Chemotherapies by Exploiting the Diversity of Microbial Quorum Sensing Systems -- Synergism between quorum sensing inhibitors and antibiotics: Combating the

antibiotic resistance crisis -- Nanoparticles as quorum sensing inhibitor: Prospects and limitations -- Nanotechnological Approaches in Quorum sensing Inhibition -- Bacterial-mediated biofouling: Fundamentals and control techniques -- Technological developments in quorum sensing and its inhibition for medical applications -- Combating Staphylococcal Infections Through Quorum Sensing Inhibitors. B. Plant Health -- Marine biodiversity as a resource for bioactive molecules as inhibitors of microbial quorum sensing phenotypes -- Quorum Sensing in plant pathogenic bacteria and its relevance in plant health -- Scope of pathogenesis-related proteins produced by plants in interrupting quorum sensing signaling -- Bioactive phytochemicals targeting microbial activities mediated by quorum sensing -- Quorum sensing interference by natural products from medicinal plants: Significance in combating bacterial infection -- Enzymatic Quorum Quenching for Virulence Attenuation of Phytopathogenic Bacteria.

Sommario/riassunto

This book discusses the practical applications of quorum sensing inhibitors for both human and plant health. Quorum sensing inhibitors that disrupt microbial biofilms can be employed to treat bacterial infections. The book describes the various bioactive molecules that can serve as quorum sensing inhibitors to combat deadly bacterial infections, in addition to several synthetic quorum sensing inhibitors. Quorum sensing is the mechanism through which bacteria develop antibiotic resistance. Intended to provide a clearer understanding of the practical applications of quorum sensing inhibitors, the book details how the problem of antibiotic resistance can be countered through the intelligent application of quorum sensing inhibitors.