



antibiotics



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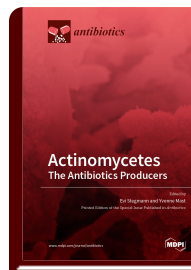
Actinomycetes

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Beyond being the most important natural compound source, actinomycetes are the origin of up to two-thirds of all clinically used antibiotics. Currently, new antimicrobials are urgently needed, as infections caused by antibiotic-resistant pathogens are on the rise. In the identification of new antibiotics, many scientists are currently investigating biosynthetic aspects of antibiotic production in actinomycetes. Since the emergence of next-generation sequencing technologies, the field of antibiotics research has experienced a remarkable revival. These bacteria have the potential to produce more antibiotics than previously thought possible. Some antibiotics are produced in standard media, while others require the presence of a specific signaling molecule in the medium. Others, however, are only produced when the native regulation of the biosynthesis gene cluster is overruled. This book covers topics in the field of antibiotic-producing actinomycetes. The following topics are addressed: - Approaches to access novel antibiotic producers for novel natural compounds - Omics and genome mining approaches for the discovery of novel natural compounds - Analyses and genetic engineering of antibiotic biosynthesis - Regulation of the secondary metabolism in actinomycetes



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