Antifungals

From Genomics to Resistance and the Development of Novel Agents

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As eukaryotic organisms, fungal pathogens are phylogenetically much closer to the human host than bacterial pathogens. This sets serious limits to the range of exploitable fungal-specific drug targets. The advent of 'omics' and other high throughput technologies in recent years has revolutionised the field of antifungal research permitting researchers to quickly identify novel compounds and gain greater insights into drug resistance mechanisms. Researchers can analyse the whole organism's response to any particular condition or compound thereby providing a deeper understanding of fungal biology and the host-fungus interaction. In this book a panel of high-profile authors provides an overview of current antifungal research. Chapters are written from a molecular and genomic perspective and contain speculative models upon which to base future research efforts. Recommended reading!

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• **Ch 1:** Molecular Mechanisms of Resistance of *Candida* spp. to Membrane-targeting Antifungals. • **Ch 2:** Point Mutations and Membrane-targeting Antifungals Resistance in *Aspergillus fumigatus* and other non-*Candida* Species. • **Ch 3:** Echinocandins: Resistance Mechanisms. • **Ch 4:** Biofilms and Antifungal Resistance. • **Ch 5:** Drug Combinations as a Strategy to Potentiate Existing Antifungal Agents. • **Ch 6:** Approaches to Detect Alternative Mechanisms of Resistance to Systemic Antifungals. • **Ch 7:** New Antifungal Discovery from Existing Chemical Compound Collections. • **Ch 8:** Exploring New Insights into Fungal Biology as Novel Antifungal Drug Targets. • **Ch 9:** Strategies for the Identification of the Mode-of-action of Antifungal Drug Candidates. • **Ch 10:** Genome Integrity: Mechanisms and Contribution to Antifungal Resistance. • **Ch 11:** Modulation of the Host Response to Control Invasive Fungal Infections. • **Ch 12:** Antifungal Vaccines and Immunotherapeutics. • **Ch 13:** Animal Models to Study Fungal Virulence and Antifungal Drugs.

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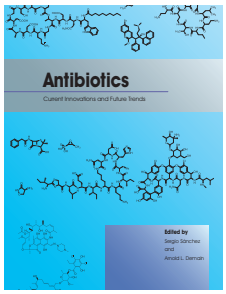

Antibiotics

Current Innovations and Future Trends

Edited by: Sergio Sánchez[1] and Arnold L. Demain[2]

[1]Universidad Nacional Autónoma de México, México and [2]Research Institute for Scientists Emeriti (RISE), Drew University, Madison, USA

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Today microbial antibiotic resistance is rapidly exhausting our supply of effective compounds and making the possibility of a global public health disaster seems likely. The urgency of this situation has spawned a plethora of new multi-disciplinary research initiatives looking for novel antibiotics and other antimicrobial agents.In this timely book respected international experts summarize the most important research to provide a timely overview of the field. Essential reading!

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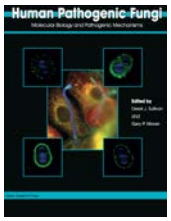
Human Pathogenic Fungi



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