Tentative Outline

Special Issue for CURRENT PHARMACEUTICAL BIOTECHNOLOGY

ANTIMICROBIAL STRATEGIES BASED ON NATURAL PRODUCTS: RECENT PROGRESS IN BIO AND NANOTECHNOLOGY

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**Aims & Scope:** Even if we are living in the era of antibiotics, microbial infections still represent one of the major causes of mortality and morbidity worldwide. This factual reality is caused mainly by the acquisition of antimicrobials resistance, which is supported by irrational usage of antibiotics that humans developed during time. Recent focus of research is to develop novel therapeutic approaches to diminish and remove pathogenic resistant bacteria. Recent findings state that microbial, plant or animal-derived products can be directed as useful tools in modulating pathogenic bacteria virulence and resistance, with minimum effects against superior hosts. Novel approaches, using bio and nanotechnology were developed for stabilization and efficient delivery of natural antimicrobial compounds. This special issue aims to cluster recent data regarding antimicrobial therapies based on natural compounds and to underline the contribution of bio and nanotechnology to the development of new strategies for fighting pathogens. We expect that this special issue will increase the specialists awareness regarding the wide opportunity offered by naturally-originated products for the antimicrobial therapy and will reveal new prospects for integrating traditional natural compounds and last generation technologies.

**Keywords:** antimicrobials, virulence modulators, nanotechnology, biotechnology, nanostructures, drug delivery, essential oils, natural polymers
Subtopics:
1. Nano-sized systems for stabilizing and target delivery of natural compounds
2. Nanostructures based on natural products used in antimicrobial therapy
3. Good microbes control bad microbes: probiotics used in anti-pathogenic approaches
4. Host-derived molecules modulating bacterial virulence
5. The role of Quorum Sensing molecules in infection control
6. Vegetal compounds as efficient antimicrobials
7. Essential oils with microbicidal and anti-biofilm activity
8. Antimicrobial nanostructures
9. Antimicrobial polymers and composites
10. Anti-pathogenic biomaterials

Approximate Schedule:
- Manuscript Submission Deadline: 24/05/2014
- Peer Review Due: 01/06/2014
- Revision Due: 01/07/2014
- Notification of Acceptance by the Guest Editor: 01/08/2014
- Final Manuscript Due: 30/08/2014