

## Tentative Outline

### Special Thematic Issue for Current Topics in Medicinal Chemistry

#### Host Defence Peptides in medicinal chemistry: identification, engineering, characterization and beyond

*Guest Editor: Dr. Angela Arciello*

#### Aims & Scope:

Host defence peptides (HDPs) are an evolutionarily ancient component of the innate immune system of most multicellular organisms. They are generally produced during maturation processes of precursor proteins that play roles not necessarily related to host defence. HDPs exhibit a wide range of biological activities from direct killing of invading pathogens to modulation of immunity, including anti-biofilm and wound healing properties. Because of these promising activities and for the rapidly increasing incidence of multidrug-resistant infections associated to the alarmingly low rate of discovery of conventional antibiotics, great attention has been devoted to HDPs as an effective and alternative strategy to treat bacterial infections. For these reasons, several natural HDPs have been extensively analyzed and characterized. Moreover, artificial derivatives with improved biological and pharmacological properties have been also produced. The main aim of this special issue is to summarize the recent advances in the field of HDPs identification, engineering and characterization, exploiting the current state of the art in the clinical use of HDPs to counteract antibiotic resistance and to develop suitable combinatorial therapeutic approaches based on the ability of the peptides to act in synergism with conventional antibiotics.

**Keywords:** Host defence peptides; Identification of cryptides; Antibiotic resistance; Medicinal chemistry; Synergism between peptides and conventional antibiotics.

#### Subtopics:

The subtopics to be covered within this issue are listed below:

- Identification of novel cryptic Host Defence Peptides (HDPs) in human protein precursors
- Engineering of HDPs to improve their stability, bioavailability and biological activities
- Characterization of HDPs biological activities and synergism with conventional antibiotics
- Applicability of HDPs in medicinal chemistry

#### Schedule:

✧ Manuscript submission deadline	: 15 June 2019
✧ Peer Review Due	: 30 July 2019
✧ Revision Due	: 30 August 2019
✧ Announcement of acceptance by the Guest Editors	: 15 September 2019
✧ Final manuscripts due	: 30 September 2019

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