Tentative Outline

Special Issue for Letters in Drug Design and Discovery

TITLE of the thematic issue:

Opportunities and challenges in anticandidal drug discovery and development

Guest Editor: Dr. Mohammad Abid

Aims & Scope: The increasing incidences of human candidiasis and its tendency to become resistant to existing chemotherapies is a well-recognized health problem. Most frequently Candida infection occur in the person having pre-clinical complications such as HIV positive, cancer therapy, organ transplantation, diabetes, week immunity, using corticosteroids and broad spectrum antibiotics. C. albicans has been reported as the most important species of Candida which is responsible for 50-60% cases of candidiasis. It ranks as the fourth leading cause of hospital acquired nosocomial infections. It is also the most common fungal species causing bloodstream infections, with associated mortality rate of 38 to 49%. A number of virulence factors such as expression of adhesins, hyphal development, secretion of hydrolytic enzymes, thigmotropism, biofilm formation and some additional attributes like pH sensing, metabolic regulation, switching *etc.* plays very important role in the pathogenicity of Candida. Antifungal drugs currently used for the treatment of Candida infections include polyenes, azoles, echinocandins, allyamines, and flucytosine. These drugs exert either fungicidal or fungistatic activities by interfering with essential cellular processes. Amon them, azole drugs comprise the most important and widely used therapeutic class of antifungal agents with low toxicity, oral bioavailability and broad spectrum. However, the incidents of resistance urge the medicinal chemists worldwide to develop antifungal agents with novel structure and mode of action.

The objective of this thematic issue is to review recent studies on various factors responsible for pathogenicity of candida species, potential targets reported so far for anticandidal drug discovery. We will also review different approaches in medicinal chemistry, which comprises chemical synthesis, natural products and their modifications, searches for new targets, structure-based approaches, hit to lead optimization of anti-candidal agents. These efforts involve several studies to aid the drug discovery of new options of treatment of the disease.

Subtopics:

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

1. Growth & virulence factors in Candida species
2. Potential drug targets for anti-candida drug discovery
3. Molecular basis of resistance to antifungals
4. Azole based small molecule inhibitors as anti-candidal agents
5. Natural products and their synthetic analogues as anti-candidal agents
6. Nano-formulations as anticandidal therapeutics

Schedule:

- ✧ Manuscript submission deadline: April 15, 2017
- ✧ Peer Review Due: May 15, 2017
- ✧ Revision Due: June 15, 2017
- ✧ Announcement of acceptance by the Guest Editor: June 30, 2017
- ✧ Final manuscripts due: September 15, 2018

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