

# Tentative Outline

## Special Thematic Issue for Current Dugs Metabolism

**Title of the thematic issue: Alternative drugs in bacterial resistance control: synergism through resistance inhibitors**

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### Aims & Scope:

One of the major challenges currently is microbial resistance, given that there are numerous cases of mortality from multiresistant bacteria. Antibiotic resistance mechanisms include the alteration or modification of the target site, degradation of the antibiotic molecule, and reduction of effective intracellular antibiotic concentration via changes in membrane permeability and/or membrane-based efflux pumps. Efflux pumps have been recognized as one of the major determinants of the concentration of an antibiotic inside a bacterial cell. Therefore, inhibition of the activity of these pumps with efflux pump inhibitors (EPIs) appears to be a promising approach for restoring the activity of the drugs that are substrates for these efflux pumps. Since the field for development, testing and commercialization of various EPIs is still in its slow, one must consider the factors that affect the efflux-mediated resistance in order to characterize the fully effective inhibitors. Therefore, for the development of EPIs it is important to understand factors such as: the type of pathogenic bacteria to be targeted, the type of pump to be targeted for inhibition and lastly, the type of antibiotic that would be rendered effective clinically during the process, so that future clinical use can be achieved later.

**6-8 Keywords:** Efflux pumps; resistance mechanisms; Efflux pump inhibitors; Antibiotic resistance, effective clinically, Multiresistant bacteria.

### Subtopics:

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

1. New efflux pump inhibitors.
2. Strategies to inhibit efflux pump.
3. Efflux pump genes expression inhibitors.
4. New methods to evaluate inhibition of flow pump inhibition.
5. Relationship of efflux pumps to other resistance mechanisms
6. Identification of new bacterial efflux pumps.
7. Binding targets in efflux pumps, an *in silico* approach.

### Schedule:

- ✧ Manuscript submission deadline: 30 November 2019
- ✧ Peer Review Due: 30 December 2019
- ✧ Revision Due: 30 January 2020
- ✧ Announcement of acceptance by the Guest Editors: February 2020
- ✧ Final manuscripts due: March 2020

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