Tentative Outline

Special/Thematic Issue for the Journal
Current Drug Target

Compounds Multi-targets Against Neglected Diseases

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Co-Guest Editor: Dr. Marcus T. Scotti

Scope of the Thematic Issue:

The basic principle of action of a drug is based on the model lock and key, where is desirable the highest possible affinity for a target avoiding no side effects. For many years it was desirable one drug for one target for one disease', however, the researchers observed that complex diseases are best addressed when treated with drugs multi-targets. However, in recent years researchers try to find polypharmacology drugs that act on multiple rather than single targets against complex diseases, such as oncology, psychiatry, and anti-infectives. Examples are fluoroquinolone which inhibits two of the multiple penicillin-binding proteins to induce cell death; anti-psychotic drugs that exhibit activities in serotonin and dopamine receptors; the protein kinase inhibitors, including sunitinib (Sutent) and imatinib (Gleevec) against cancer. In the searches, new drugs against a specific target of one disease have been found to be active against another target of a different disease and/or reduce the resistance.

Neglected Diseases are those that affect almost exclusively poor and powerless people living in rural parts of low-income countries. They sometimes attract other labels, such as tropical diseases or poverty-related diseases. Neglected diseases include leishmaniasis (kala-azar), onchocerciasis, Chagas disease, leprosy, tuberculosis, schistosomiasis, lymphatic filariasis, African trypanosomiasis (sleeping sickness), malaria, and dengue. Some neglected diseases are life-threatening, while others result in high morbidity and severe disabilities. Neglected diseases continue to cause significant morbidity and mortality in the developing world. Yet, of the 1,556 new drugs approved between 1975 and 2004, only 21 (1.3%) were specifically developed for tropical diseases and tuberculosis, even though these diseases account for 11.4% of the global disease burden. Several medicinal chemistry studies report different approaches using these compounds in drug discovery, which comprise synthesis, semi-synthesis, searches for new targets, evaluation of biological activities, and/or theoretical approaches such as structure-based approaches, SAR, QSAR, docking, and cheminformatics methods. The objective of this thematic issue is to report recent studies of Medicinal Chemistry used for the treatment or cure of neglected diseases.

Keywords: Multi targets, compounds, complex diseases, issues, drugs, biological targets

Sub-topics:

- Medicinal chemistry
- Drug research
- Drug development.

Schedule:

- Complete Thematic issue submission deadline: **September 15, 2023**

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