

Tentative Outline
Special Issue for Current Drug Metabolism

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New horizons to overcome cancer multidrug resistance

Aims & Scope:

The development of multidrug resistance (MDR) to chemotherapy remains a major hurdle in the management and successful treatment of various types of cancer patients. Tumors usually consist of mixed populations of cancerous cells, some of which are sensitive to chemotherapeutic drugs whereas others are resistant. Chemotherapy kills drug sensitive cancerous cells, but leaves behind a higher proportion of drug resistant cancerous cells. As the tumor begins to rise again, chemotherapy may fail because the remaining tumor cells are now drug resistant.

A better understanding of the clinically active mechanisms of MDR and assessment of drug resistance molecular markers might help to both develop new therapeutic strategies to circumvent drug resistance and also logical use of existing drugs for selected patients. Lesser aggressive treatment might be given to patients without drug resistance with no harming outcome. By contrast, patients with drug resistance might be selected for therapies not affected by this mechanism. In these patients chemotherapeutic drugs might also accompanied with a resistant modifier, agents that are capable of reversing multidrug resistance.

This issue aims to demonstrate the advantages of the young medical science fields including nanomedicine, gene therapy and targeted therapy for signal transduction pathways to overcome MDR in cancer. With the advanced design and alternative mechanisms of drug delivery known for different nanodrug systems including micelles, liposomes, dendrimers, polymer conjugates, metallic and carbon-based nanoparticles as well as other innovative strategies including RNA interference, targeting

molecules that modulate the tumor microenvironment as MDR modulators, overcoming various forms of MDR looks promising and opens new horizons for cancer treatment.

Subtopics

- Nanomedicinal strategies to overcome cancer drug resistant
- The impact of tumor stromal interrelations in drug resistance development
- Targeting key intracellular molecules and regulatory signaling pathways to inhibit MDR
- Gene-based therapeutic approaches
- Advances in drug designing and novel drug delivery methods

Schedule:

Call for Papers: November 2016

Submission Deadline: January 2017

Peer-Reviewing: March 2017

Notification of acceptance by the Guest Editor: April 2016

Final manuscripts publication: May 2016