Frontiers in Bioscience-Landmark

Special Issue

The overcoming of multidrug resistance in cancer: mechanisms and strategies

Guest Editor

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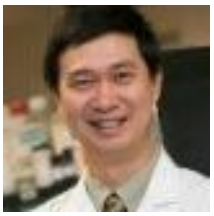

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Message from the Guest Editor

Dear Colleagues,

Cancer has been one of the major causes of death worldwide. Administration of conventional anticancer drugs is the first choice in clinical practice for cancer patients. Though an increasing number of target-specific small-molecule drugs were developed in the past decades, many patients relapse as treatment proceeds. Cancer drug resistance to structurally distinct chemotherapeutic agents is one of the major causes of the failure of the curative treatment. Therefore, overcoming drug resistance in cancer remains a major obstacle to successful cancer therapy.

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Mechanisms of drug resistance include, but are not limited to, gene mutation or increased anti-apoptosis, DNA repairs, detoxification systems, drug inactivation or drug transport that works either independently or collaboratively. For example, the overexpression of drug transporters allows cancer cells to actively extrude chemotherapeutic agents and worsen the prognosis of cancer patients.

Extensive efforts have been made to overcome cancer multidrug resistance (MDR), including discovering new drug resistance mechanisms, therapeutic targets and new therapeutic approaches. However, overcoming drug resistance is still a challenging task, thus, a deeper understanding will benefit the development of these new strategies. This special issue accepts submissions relevant to studies on drug resistance mechanisms as well as the development of novel therapeutic agents, in order to collect state-of-the-art discoveries to circumvent cancer MDR.

Dr. Jing-Quan Wang, Prof. Dr. Zhe-Sheng Chen and Dr. Qingbin Cui

Guest Editors

Submission Deadline: 01 March 2022

Submission: https://www.fbscience.com/Landmark

Science Citation Index Expanded: 4.009 (2020)

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