

Tentative Outline

Special/Thematic Issue for the journal "Current Cancer Drug Targets"

Title of the Thematic Issue: Cell death related biomarker in cancer based on multi-omics

Guest Editor: Dr. Mingjun Zheng

- **Scope of the Thematic Issue:**

Abnormal programmed cell death (PCD) can lead to diseases and even tumors. It is highly desirable for anti-cancer drugs to induce cell death in order to have better efficacy and less complications. Apoptosis, pyroptosis and necroptosis are the clearest PCD pathways, which provide protection for the body to resist risk factors. Under certain conditions, the three pathways can transform one way into another. Under physiological conditions, apoptosis is the main form of cell death and a caspases-dependent non-inflammatory process characterized by the formation of apoptosomes. Pyroptosis is mediated by inflammasomes and is characterized by the formation of caspase-1 (CASP1)-dependent pores at the plasma membrane, cellular lysis, and release of inflammatory content. Ferroptosis is an iron-dependent and reactive oxygen species (ROS)-reliant cell death. with characteristics mainly of cytological changes, including decreased or vanished mitochondria cristae, a ruptured outer mitochondrial membrane, and a condensed mitochondrial membrane. In the past decade, drugs targeting on cell death related genes have shown promising prospect in cancer therapy. The aim of this thematic issue is to identify cell death related biomarker in cancer based on multi-omics and to explore potential mechanism of drugs targeting on cell death related genes.

Keywords: pyroptosis, ferroptosis, necroptosis, PANoptosis, immunogenic cell death

Sub-topics:

- Drugs targeting on cell death related genes in cancer therapy.
- Cell death related biomarkers in predicting cancer.
- The role of Immunogenic cell death in cancer therapy.
- Mechanism of interaction between necroptosis, ferroptosis and apoptosis in cancer.
- Key factors of cross-talk signal way in "PANoptosis" in cancer.

Tentative titles of the articles:

- Integration of bulk RNA sequencing and single-cell analysis reveals diverse cell-death patterns to predict the prognosis and drug sensitivity of ovarian cancer patients
- Necroptosis-related lncRNA pairs to predict molecular characteristics of lung adenocarcinoma
- Identification of a prognostic pyroptosis-related signature in the tumor microenvironment of breast cancer
- Genomic analysis uncovers prognostic and immunogenic characteristics of PANoptosis for ovarian cancer
- Systematic analysis of the aberrances and functional Implications of pyroptosis in cancer
- Necroptosis-related signature predicts prognosis and immunotherapy efficacy in bladder cancer
- Multimodule characterization of necroptosis subgroups in breast cancer reveals distinct therapeutic vulnerabilities
- Development and validation of a cell death-related classifier of circulating tumour cells to provide a therapeutic strategy in lung adenocarcinoma
- Targeting immunogenic cell death in cancer based on multi-omics
- Drug-induced immunogenic cell death for chemo-immunotherapy based on multi-omics
- Realizing the clinical potential of PANoptosis in cancer chemotherapy and radiotherapy

Schedule:

✧ Thematic issue submission deadline: 2024.01.01

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