

## Tentative Outline

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

#### **Title: Biomarkers, resistance mechanisms, and potential targets for cancer therapy**

*Guest Editor: Hao Zhang*

*Co-Guest editors: Quan Cheng; Nan Zhang*

#### • **Scope of the Thematic Issue:**

In this era of precision medicine and exciting advances, drug resistance remains an important obstacle to cancer treatment. The development of targeted therapy based on increasingly revealed pathogenic mechanisms of cancer has made contributions to overcoming drug resistance. The use of model organisms in target discovery and validation of small molecule drugs is becoming commonplace. A critical objective of this topic is the target discovery and validation of small-molecule drugs. Another important aspect of this topic is the description and elucidation of novel molecular targets and pathways and insights into precision medicine.

Besides, immunotherapy, represented by Immune checkpoint inhibitors (ICIs) and CAR-T therapy, has led to better therapeutic outcomes. However, there are still quite a lot of patients suffering from severe side effects and ineffective treatment outcomes. Although some candidate biomarkers, including PD-L1, tumor mutation burden (TMB), interferon-gamma (IFN- $\gamma$ ), and microsatellite instability (MSI), could facilitate the clinical selection of patients for ICI treatment, these approaches are hampered by moderate accuracy and limited scope of application. To this end, identifying new immunotherapy biomarkers, mining resistance mechanisms, and exploring potential targets for enhancing immunotherapy efficacy are urgent, as this could facilitate the selection of potential immunotherapy beneficiaries.

**Keywords:** Treatment resistance, Target, Drug molecule, Immunotherapy, Biomarker, Pathogenic mechanism.

#### **Sub-topics:**

- New technologies or methods employed to discover biomarkers for cancer immunotherapy.
- Integrated genomic analysis identifies clinically relevant subtypes of patients sensitive to cancer immunotherapy.
- Novel molecular mechanisms involved in the response or sensibility of cancer immunotherapy.
- Immune neoantigen of tumor involved in the immune response during cancer immunotherapy.
- Bioinformatics research with validation to identify novel biomarkers and models based on cancer immunotherapy patients.
- Pathogenic mechanisms of cancer in drug resistance.
- Novel targeted therapy of cancer based on newly defined molecular mechanisms.
- Biomarkers for cancer development.
- The target discovery and validation of small-molecule drugs.
- Machine learning-based predictive and prognostic model

#### **Schedule:**

✧ Thematic issue submission deadline: 31st Nov 2023

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