Tentative Outline

Special Thematic Issue for the journal Current Cancer Drug Targets

Title of the Thematic Issue: The role of autophagy in cancer

Guest Editor: Prof Stamatios Theocharis MD, PhD

Co-Guest Editor: Dimitris Goutas MD

- **Scope of the Thematic Issue:**

Autophagy, a self-degradative process aimed to achieve cellular homeostasis through degradation of damaged cytoplasmic constituents, displays a biphasic role in cancer and chemotherapy resistance. This has been widely known as the double-edge sword effect which is based on the conflicting role that autophagy exhibits in cancer. On one hand, when autophagy is stimulated and, therefore, its action gets enhanced, then it can lead to autophagic death of cancer cells. On the other hand, in more advanced stages of tumorigenesis autophagy can augment tumor cells' survival by reducing stress in the tumour microenvironment. Furthermore, autophagy inhibition can augment cancer cells sensitivity to chemotherapeutic regimens, in a process known as "protective autophagy". The aforementioned facts highlight the role that autophagy could display in cancer and explains the use of autophagy modulators as a potent adjuvant therapy. Nevertheless, the need of studying further the mechanisms and controlling pathways of autophagy is paramount, so that new therapeutic agents targeting and interacting with autophagy can get developed.

Keywords: Autophagy; Cancer; Autophagy modulators; Tumour microenvironment; Tumor suppression; Autophagy inhibition; Autophagy stimulation

Sub-topics:

The sub-topics to be covered within the issue should be provided:

- Clinical associations of autophagy and cancer
- Experimental results (in vivo and in vitro) from autophagy research in carcinogenesis and tumor progression
- The role of tumor microenvironment and its correlation with the mechanisms of autophagy
- Application of novel autophagy modulators in cancer

Tentative titles of the articles and list of contributors:

Tentative titles of the articles:

- Targeting autophagy mechanisms in cancer: Is it the right approach?
- The biphasic role of autophagy in cancer
- How can we manipulate the double-edge sword effect of autophagy in cancer to achieve tumor suppression?
- Manipulating the mechanisms and controlling pathways of autophagy in cancer
- The role of autophagy in carcinogenesis and tumor progression
- Recent advances and future perspectives of autophagy in cancer initiation and progression

Schedule:

- Thematic issue submission deadline: 31st December 2022

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