Special Issue

The Role of Stem Cells and Circadian Clock in Cancer Immunotherapy

Message from the Guest Editor

Recent advances in cancer research have highlighted the critical interplay between stem cells and the circadian clock in regulating immune responses and cancer progression. Stem cells, including neural stem cells (NSCs) and cancer stem cells (CSCs), play pivotal roles in tumor initiation, maintenance, and resistance to therapies in both brain and peripheral cancers. Meanwhile, the circadian clock, a cellular timekeeping mechanism governing daily physiological rhythms, also influences immune system function, tumor microenvironment, and therapeutic outcomes. This Special Issue will explore the regulatory role of the circadian clock in stem cell dynamics and its implications for cancer immunotherapy. Topics of interest include the identification and characterization of stem cell subpopulations with circadian-dependent behaviors; the influence of circadian timing on immune checkpoints, tumor-infiltrating lymphocytes and cancer vaccines; the development of strategies to target circadian mechanisms for enhanced immunotherapeutic efficacy; and in vivo models and culture systems that simulate the circadian environment for investigating cancer stem cell behavior.

Guest Editor

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Cells has become a solid international scientific journal that is now indexed on SCIE and in other databases. We have successfully introduced a special issues format so that these issues serve as mini-forums in specific areas of cell science. *Cells* encourages researchers to suggest new special issues, serve as special issues editors, and volunteer to be reviewers. Our main focus will remain on cell anatomy and physiology, the structure and function of organelles, cell adhesion and motility, and the regulation of intracellular signaling, growth, differentiation, and aging. We are open to both original research papers and reviews.

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