

Special Issue

Cellular Stress and Genomics in Eukaryotes

Message from the Guest Editor

Genomic instability is a major cause of cancer cell formation in multicellular organisms and is one criterion for the diagnosis of cancer, as a significant proportion of mutations leading to tumourigenesis can be caused by the dysregulation of the mechanisms responsible for normal DNA segregation in mitosis. The regulatory systems of these processes impose different metabolic specificities on each phase of the cell cycle and, by supervising the correct chronology of events, condition the maintenance of the structural and functional integrity of the eu- and heterochromatin sequences. The effect of many chemical agents can be to 'bypass' (overriding) or disrupt the surveillance of genome integrity. The course of the subsequent phases of nuclear division is then aberrant and can lead to cell death. Disabling the function of internal S-phase checkpoints leads to the sensitisation of tumour cells to anticancer agents and the effects of ionising radiation. We invite the submission of studies related to the molecular dynamics of replication and mitosis and cellular stress in cancer cells.

Guest Editor

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