

Special Issue

Molecular Mechanism of DNA Replication and Repair

Message from the Guest Editors

dsDNA is a stable, chemically inert molecule continuously subjected to a variety of exogenous and endogenous insults throughout the cell cycle. Unrepaired or misrepaired DNA lesions may cause mutations or chromosomal damage and, ultimately, abnormalities, including oncogenic transformation. For the maintenance of genomic stability, the organisms have developed signal pathways that give rise to a DNA damage response (DDR). This mechanism is characterized by its capability to tolerate DNA damage and structural impediments during DNA synthesis; thus, it replicates fork progression and stability in the presence of blocking structures or DNA lesions. Malfunctioning DDR can cause fork arrest and eventually fork collapse, leading to the formation of DNA double strand breaks. This Special Issue of *IJMS* aims to expand our current understanding on molecular and cellular mechanisms of DNA replication and repair. We want to offer a platform for high-quality publications on various sides of DNA replication and repair research.

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