



Nuclear Genome Stability: DNA Replication and DNA Repair

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Message from the Guest Editors

Maintenance of the nuclear genome is crucial for all living organisms; loss of genome stability leads to mutations and chromosome rearrangements, causing cancers and other life-threatening diseases. To prevent genome instability, cells deploy multiple mechanisms, including error-free replication of the genome, efficient repair of DNA damage, activation of cell cycle and DNA damage checkpoints, protection of replication forks, and faithful transmission of the genome to daughter cells. The proliferating cell nuclear antigen (PCNA)—an essential “hub” protein encircling DNA—plays a central role in those events through orchestration of its binding partners. Loss of factors involved in these processes generally causes profound genome instability.

This Special Issue of IJMS will address these mechanisms maintaining nuclear genome stability in eukaryotes, with particular focus on DNA replication and DNA repair. We welcome the submission of full reviews, original research papers, and short communications, as well as perspectives concerning the above mentioned mechanisms.





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Message from the Editor-in-Chief

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