Special Issue

Molecular Research of DNA Replication and Genome Stability

Message from the Guest Editor

The duplication of chromosomal DNA is executed in the cell by a complex multi-protein machine named the "replisome". It includes at least three different DNA polymerases, one DNA primase (a specialized RNA polymerase) and one DNA helicase. Enzymes working at the replication forks (along with their auxiliary subunits and regulators) have been the subject of intensive investigations. Nonetheless, a lot has yet to be learned about the molecular mechanisms underlying the DNA replication process: the coordination of genome duplication with other critical chromosomal transactions (i.e., epigenetic mark heritage, sister chromatid cohesion, chromosome segregation, gene transcription) is largely unexplored. The availability of novel tools to manipulate genes of interest in mammalian cells and recent improvement of the bio-imaging technologies are leading to a more comprehensive understanding of the molecular and cellular functions of the enzymes/proteins involved in the genome stability maintenance pathways. This Special Issue of the International Journal of Molecular Sciences will collect contributions along these lines of investigation.

Guest Editor

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The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

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