



Chemistry of DNA Repair and DNA Replication

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Deadline for manuscript
submissions:

closed (30 September 2023)

Message from the Guest Editor

Cellular DNA constantly undergoes chemical alterations, resulting in DNA lesions that are cytotoxic, miscoded, and are believed to be the cause of mutagenesis and cell lethality. The elimination of DNA damage involves several distinct DNA repair pathways. All these pathways are catalyzed by enzymes, and protein factors are responsible for the coordination of the whole repair process. DNA polymerases are also involved in various cellular processes associated with DNA replication and recombination, as well as the repair and maintenance of the integrity of nucleic acids. Differences in the biological functions of these enzymes are associated with cell localization, specificity for certain structures of DNA, fidelity, processivity, etc. It is now hard to find a biochemical process that is not connected to DNA repair and synthesis. The goal of this Special Issue is to present our current knowledge on the mechanistic details of DNA repair and synthesis enzymes, applying different experimental and computational approaches.





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Message from the Editor-in-Chief

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