

## Special Issue

# DNA Damage in Neurological Disorders: Etiological and Therapeutical Aspects

### Message from the Guest Editors

Accumulation of DNA lesions has been reported in aging and several neurodegenerative diseases of the central and peripheral nervous system. Neurons are particularly vulnerable to DNA damage, as, given their post-mitotic nature, they lack cell-cycle checkpoints. Furthermore, they are largely dependent on oxidative phosphorylation for energy production. However, recent evidence has shown that DNA damage and the subsequent repair are important pathways in the regulation of neuronal gene expression in physiological conditions, such as synaptic plasticity and neuronal activity.

This Special Issue focuses on the sources of DNA damage, the defective repair pathway, and the different levels of regulation of DNA damage/repair pathways in neuronal physiological and pathological conditions for a better understanding of the etiology of neurological diseases. We intend to emphasize the role of epigenetic, chromatin remodeling, and chromatin architecture mechanisms in the balance between DNA damage and repair. We also propose to illustrate the potential implications of DNA damage as a novel therapeutic target in aging-related neuropathies and neurodegeneration.

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### Guest Editors

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Dr. Ilaria Palmisano

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### Deadline for manuscript submissions

closed (20 October 2025)



## International Journal of Molecular Sciences

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