Special Issue

Molecular Mechanisms Responsible for Radiation-Induced Toxicity of Normal Tissue

Message from the Guest Editor

According to the American Cancer Society report, a little over 1.9 million new cancer cases are expected to be diagnosed in the United States in 2022. Approximately 50% to 60% of these cancer patients will either receive targeted fractionated radiation to eradicate a local tumor or total body irradiation as a conditioning process before bone marrow transplantation. Unfortunately, a strong positive correlation exists between tumor regression due to radiotherapy and healthy tissue toxicity. Radiation damage may also occur from nuclear accidents or warfare. Radiation damage, especially in highly radiosensitive tissues, such as those in the hematopoietic and gastrointestinal systems, may occur within hours to days (early), within weeks (acute), or after months or years (delayed). However, the pathogenesis of the postirradiation healthy tissue toxicity is highly complex in nature. Thus, it is important to define and better understand the genetic basis of and genes involved in healthy tissue radiation damage to allow the development of novel mitigating methods, which would not interfere with cancer therapy.

Guest Editor

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Deadline for manuscript submissions

25 December 2025

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Genes

an Open Access Journal by MDPI

Impact Factor 2.8
CiteScore 5.5
Indexed in PubMed

mdpi.com/si/121424

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