Special Issue

Genomic Instability: Insights into Molecular Mechanisms, Human Diseases, and Therapies

Message from the Guest Editor

Numerous genes that affect genomic instability are known tumor suppressor genes, including TP53, BRCA1, and BRCA2. Many conventional chemotherapy drugs, including the alkylating agents and various topoisomerase inhibitors, target tumors by damaging their DNA. Though some of the chemotherapy drugs can be very effective, their severe side effects limit their long-term use. With the approval of PARP inhibitors, many academic labs and biotech companies are actively exploring the DNA damage response (DDR) and DNA repair pathways for targeted therapy. Additionally, recent clinical trials have shown that cancers defective in certain DDR and DNA repair proteins are more sensitive to immune checkpoint inhibitors, suggesting that genomic instability could be used as a biomarker for immuno-oncology. The aim of this collection is to explore how genomic instability is targeted for cancer therapy and/or is used as a biomarker to guide the treatment.

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Biomolecules is a multidisciplinary open-access journal that reports on all aspects of research related to biogenic substances, from small molecules to complex polymers. We invite manuscripts of high scientific quality that pertain to the diverse aspects relevant to organic molecules, irrespective of the biological question or methodology. We aim for a competent, fair peer review and rapid publication. Please look at some of the exciting work that has been published in *Biomolecules* so far. We would be delighted to welcome you as one of our authors.

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