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DNA Damage Repair in Cancers

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Message from the Guest Editor

Despite its stability, DNA continuously faces damage from endogenous and exogenous sources, prompting the evolution of the DNA damage response (DDR) in cells. Over the past two decades, leveraging the concept of synthetic lethality, where cancer cells depend on alternative pathways, has proven to be powerful in identifying targeted therapeutic approaches. One such approach that has made its way into clinical practice involves PARP inhibitors, which exploit synthetic lethality in tumours lacking DNA repair factors *BRCA1* or *BRCA2*. In addition to PARP inhibitors, several new DDR targets, with small-molecule inhibitors undergoing clinical trials, have also been identified, marking a promising frontier in cancer treatment.

Therefore, in this Special Issue we extend an invitation for original basic research utilising pre-clinical in vitro and/or in vivo approaches, as well as reviews, with an emphasis on the identification and characterisation of novel DDR genes, molecular targets for anticancer treatments, especially those previously considered undruggable, and novel methodologies within this domain.



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Special Issue



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Message from the Editor-in-Chief

Genes are central to our understanding of biology, and modern advances such as genomics and genome editing have maintained genetics as a vibrant, diverse and fastmoving field. There is a need for good quality, open access journals in this area, and the *Genes* team aims to provide expert manuscript handling, serious peer review, and rapid publication across the whole discipline of genetics. Starting in 2010, the journal is now well established and recognised.

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