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Harnessing the Immune System to Fight Pediatric Cancer

Guest Editor:

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Message from the Guest Editor

Pediatric cancer presents unique treatment challenges but also opportunities. Current treatment strategies typically involve the use of highly toxic drugs, which can result in life-long side effects. Treatment failure and relapse lead to increasingly worse outcomes and side effects from increasingly toxic therapies. Although children are not simply smaller adults, and pediatric cancers are fundamentally different in their etiology, treatments have largely been adapted from adult research. Pediatric cancers typically lack the large number of mutations that often make immunotherapy effective. However, genomic medicine offers the opportunity to identify genetic and, perhaps more importantly, epigenetic changes that might be targeted by molecular and immune-based therapies. This Special Issue will review how the genomes and epigenomes of pediatric patients are unique and potentially targetable. Identifying rare genetic and epigenetic variants that contribute to pediatric cancer will help to identify new treatment options. In addition, further development of immunotherapy for pediatric patients can improve the treatment paradigm and long-term outcomes for this unique population.









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