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Immunologic Approaches to Cancer Prevention – Current Status, Challenges and Future Perspectives

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Tumor immunity, cancer immunoprevention, tumor antigens, cancer vaccines

Abstract

The potential of the immune system to recognize and reject tumors has been investigated

for more than a century. However, only recently impressive breakthroughs in cancer

immunotherapy have been seen with the use of checkpoint inhibitors. The experience

with various immune-based strategies in the treatment of late cancer highlighted the

importance of negative impact advanced disease has on immunity. Consequently, use of

immune modulation for cancer prevention rather than therapy has gained considerable

attention, with many promising results seen already in pre-clinical and early clinical

studies. Although not without challenges, these results provide much excitement and

optimism that successful cancer immunoprevention could be within our reach. In this

review we will discuss the current state of predominantly primary and secondary cancer

immunoprevention, relevant research, potential barriers and future directions.

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