

MECHANISMS OF IMMUNE CHECKPOINT BLOCKADE IN ANTI-TUMOR THERAPY

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The immune checkpoint blockade is able to induce sustained responses in various types of cancer cells and it could be potential basis for the development of new cancer therapies. However, well-marked responses to immunotherapy are currently limited to only a small proportion of patients and cases, indicating the need to develop new and effective approaches. At the moment, data of a large number of preclinical and clinical studies have already been accumulated, showing significant therapeutic potential of negatively and positively co-stimulating molecules. However, there are significant gaps in the understanding of the basic biological mechanisms and functions of these molecules. And this knowledge is vital for predicting and developing next-generation immunotherapy methods. Here we review the available information on the mechanisms of T-cell co-stimulation and immune checkpoint blockade, primarily CTLA4 and PD-1-mediated, and highlight the most important points that require further study.

Keywords: immune checkpoint blockade, antitumor therapy, CTLA4, PD-1, T-cell activation