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2. Mechanisms involved in the immunostimulating activity of certain chemotherapeutic drugs
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Review

Exploitation of the propulsive force of chemotherapy for improving the response to cancer immunotherapy

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Abstract

Since the early clinical studies of cancer immunotherapy, the question arose as to whether it was possible to combine it with standard cancer treatments, mostly chemotherapy. The answer, now, is past history. The combined use of immunotherapy and chemotherapy is not only possible but, in certain cases, can be advantageous, depending on the drug, dose and the combination modalities. In order to find the best synergisms between the two treatments and to turn weak immunotherapeutic interventions into potent anticancer instruments, it is mandatory to understand the complex mechanisms responsible for the positive interactions between chemotherapy and immunotherapy. In this article, we review the current knowledge on mechanisms involved in the immunostimulating activity of chemotherapy and summarize the main studies in both mouse models and patients aimed at evidencing such mechanisms for enhancing the response to cancer.