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Editorial

Immunoregulatory Cell Populations Obligatory Targets with Most Cancer Therapies

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Immunosuppressory elements, dominated by immunoregulatory cell populations and negative checkpoint regulators, emerge as obligatory targets needing to be neutralized for the clinical success of not only various cancer immunotherapy protocols but also most of other cancer therapies. The expansion and activity of immunoregulatory cells, dominated by Myeloid-Derived Suppressor Cells (MDSCs) and regulatory T cells (Tregs), is promoted by growing tumors. Physical, chemical, and other tumor insults delivered by surgery and various types of cancer therapy are usually associated with a further buildup in the numbers of these cells and their continued activity. They also exert influence over immune checkpoint resistance. By directly interfering with antitumor activity of immune effector cells and releasing a plethora of tumor-promoting mediators (such as nitric oxide, Th2-type cytokines, and prostaglandins), immunoregulatory cells can be responsible for the limited responses of various cancer therapies and their constrained duration, relapses after initial good responses, and metastatic spread.

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