

# Modulating the immune system to combat metastatic cancer

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Cancer cells spread and grow by avoiding detection and destruction by the immune system. Stimulation of the immune system can help to eliminate cancer cells; however, there are many factors that cause the immune system to ignore cancer cells. Regulatory T cells are immune cells that function to suppress the immune system response.

In this issue of the *Journal of Clinical Investigation*, researchers led by Ronald Levy at Stanford University found that [regulatory T cells](#) that infiltrate tumors express proteins that can be targeted with therapeutic antibodies. Mice injected with antibodies targeting the proteins CTLA-4 and OX-40 had smaller tumors and improved survival.

Moreover, treatment with these antibodies cleared both tumors at the primary site and distant metastases, including [brain metastases](#) that are usually difficult to treat.

These findings suggest that therapies targeting regulatory T cells could be a promising approach in cancer treatment. In an accompanying commentary, Cristina Ghirelli and Thorsten Hagemann emphasize that in order for this approach to be clinically relevant, it will be important to show that targeting regulatory T cells in metastatic tumors also blocks growth.

**More information:** Depleting tumor-specific Tregs at a single site eradicates disseminated tumors, *J Clin Invest.* [doi:10.1172/JCI64859](https://doi.org/10.1172/JCI64859)  
Targeting immunosuppression for cancer therapy, *J Clin Invest.* 2013;123(6):2355–2357.  
[doi:10.1172/JCI69999](https://doi.org/10.1172/JCI69999)

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