Cutting edge: IgE plays an active role in tumor immunosurveillance in mice

Elisa A. Nigro, Anna T. Brini, Vijay A. Yenagi, Lorena M. Ferreira, Gertrude Achatz-Straussberger, Alessandro Ambrosi, Francesca Sanvito, Elisa Soprana, Eelco Van Anken, Gernot Achatz, Antonio G. Siccardi, Luca Vangelista

Department of Biomedical Sciences

Abstract

Exogenous IgE acts as an adjuvant in tumor vaccination in mice, and therefore a direct role of endogenous IgE in tumor immunosurveillance was investigated. By using genetically engineered mice, we found that IgE ablation rendered mice more susceptible to the growth of transplantable tumors. Conversely, a strengthened IgE response provided mice with partial or complete resistance to tumor growth, depending on the tumor type. By genetic crosses, we showed that IgE-mediated tumor protection was mostly lost in mice lacking FceRI. Tumor protection was also lost after depletion of $CD8^+$ T cells, highlighting a cross-Talk between IgE and T cell- mediated tumor immunosurveillance. Our findings provide the rationale for clinical observations that relate atopy with a lower risk for developing cancer and open new avenues for the design of immunotherapeutics relevant for clinical oncology. The Journal of Immunology, 2016, 197: 2583-2588.

Original language English

Pages (from-to) 2583-2588

Number of pages 6

Journal Journal of Immunology

Volume 197

Issue number 7

State Published - Oct 1 2016

Nigro, E. A., Brini, A. T., Yenagi, V. A., Ferreira, L. M., Achatz-Straussberger, G., Ambrosi, A., ... Vangelista, L. (2016). Cutting edge: IgE plays an active role in tumor immunosurveillance in mice. *Journal of Immunology*, *197*(7), 2583-2588. DOI: 10.4049/jimmunol.1601026