

# AllergoOncology: Is ultra-low IgE a potential novel biomarker in cancer? A position paper of the European Academy of Allergy and Clinical Immunology (EAACI)

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## Abstract

Elevated serum IgE levels are associated with allergic disorders, parasitosis and specific immunologic abnormalities. In addition, epidemiological and mechanistic evidence indicates an association between IgE-mediated immune surveillance and protection from tumour growth. Intriguingly, recent studies reveal a correlation between IgE deficiency and increased malignancy risk. This is the first review focusing on IgE levels and links to pathological conditions, with special focus on the potential clinical significance of ultra-low serum IgE levels and risk of malignancy. In this Position Paper we discuss: a) the utility of measuring

total IgE levels in the management of allergies, parasitosis, and immunodeficiencies, b) factors that may influence serum IgE levels, c) IgE as a marker of different disorders, and d) the relationship between ultra-low IgE levels and malignancy susceptibility. While elevated serum IgE is generally associated with allergic/atopic conditions, very low or absent IgE may hamper anti-tumour surveillance, indicating the importance of a balanced IgE-mediated immune function. Ultra-low IgE may prove to be an unexpected biomarker for cancer risk. Nevertheless, given the early stage of investigations conducted mostly in cohort of patients with diseases that influence IgE levels, in-depth mechanistic studies and stratification of malignancy risk based on associated demographic, immunological and clinical co-factors are warranted.

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