

**IMMUNOLOGY AND CELL BIOLOGY**

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**Biography**

Gilberto Filaci is a PhD holder, is Vice-Director of the Centre of Excellence for Biomedical Research and full Professor of Laboratory Techniques for Medicine at the University of Genoa, Italy. He is author of more than 90 publications cited over 2500 times, and his publication H-index is 28.

[gfilaci@unige.it](mailto:gfilaci@unige.it)**CD8+ TREG INVOLVEMENT IN THE PATHOGENESIS OF AUTOIMMUNE, CANCER AND HIV INFECTIOUS DISEASE**

Treg constitute a complex network of T cell subtypes which regulate effector immune responses. Although CD4+ Treg are most known, in the recent years several CD8+ Treg subpopulations have been characterized. We identified the exact phenotype of one of these CD8+ Treg subsets (that is CD8+CD28-CD127-CD39+), allowing us to specifically recognize these cells *in vivo* and to study them *ex vivo*. Altered frequency or function of these CD8+ Treg appears to be pathogenically involved in autoimmune diseases. Moreover, these cells heavily infiltrate tumors and may circulate in the peripheral blood of cancer patients. These findings suggest their direct involvement also in the pathogenesis of cancer through the fostering of tumor immune escape. Recently, remarkable expansion of CD8+CD28-CD127<sup>lo</sup>CD39<sup>+</sup> Treg, whose frequency correlated with both clinical disease and signs of chronic immune cell activation, was observed in HIV patients.

