The operation of the immune system is a complex orchestration of specific self and non-self-recognition capacities mediated by cells of the innate system acting in coordination with T and B lymphocytes in a series of processes modulated by cytokines. We provide evidence for a natural immunomodulatory system involving autoantibodies directed against a controlling segment of T cell receptor Vβ chains that downregulate production of stimulatory cytokines.
balanced by the peptides which in turn upregulate inflammatory activities mediated by TH1-type helper cells. TCR Vβ-derived peptides effective in retrovirally induced immunosuppression could also reverse the effects of immunosenescence in aged mice by restoring the balance of TH1- and TH2-type immunity and the resistance of the animals to cardiac pathology caused by infection with coxsackievirus. An unexpected finding was an adaptive role of the T cells from peptide-treated mice in remodeling damaged hearts by increasing net collagen synthesis by cardiac fibroblasts.