招待講演 1

Role of Bone Marrow T Cells in Lupus and Graft versus Host Disease

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The mouse bone marrow contains an unusual balance of $\alpha\beta^+$ T cell subsets such that NK 1.1⁺ T cells account for about 30-50% of all T cells, whereas in the thymus and spleen, NK 1.1⁺ T cells account for about 1-3% of T cells. Amongst the NK 1.1⁺ T cells in the bone marrow about one third are CD 4⁻ CD 8⁻ (double negative). These unusual cells in the bone marrow suppress immune responses and inhibit the mixed leukocyte reaction, graft versus host disease, and systemic autoimmunity. These “natural suppressor” T cells secrete high levels of IFN- γ and IL-4 after initial activation and recognize CD 1, a non-polymorphic MHC class-like molecule. The suppressive activity of the bone marrow NK 1.1⁺ T cells is dependent on their rapid secretion of high levels of IL-4. This unique cytokine secretion is not observed in conventional NK 1.1⁻ T cells, and suppresses the function of the latter cells. The NK 1.1⁻ CD 4⁺ and CD 8⁺ T cells induce or facilitate graft versus host disease and murine lupus, and are regulated by the NK 1.1⁺ T cells.