Abstract

IL-2 belongs to the family of γ_c cytokines (IL-2, 4, 7, 9, 15, and 21) which are key regulators of lymphocyte homeostasis and function. They have the potential to promote lymphocyte proliferation and survival and thus overall enhance dominantly adaptive immune response. IL-2 is an autocrine/paracrine soluble factor produced mainly by activated T cells. Interestingly, the in vivo biological activity of IL-2 can be dramatically increased through complexing with certain anti-IL-2 mAbs and such IL-2/anti-IL-2 mAbs immunocomplexes selectively stimulate proliferation of distinct population of immune cells, depending on the clone of anti-IL-2 mAb used. IL-2/S4B6 mAb immunocomplexes are highly stimulatory for $CD122^{high}$ populations (memory $CD8^+$ T and NK cells) and intermediately also for $CD25^+$ populations (Treg and activated T cells), while IL-2/JES6-1 mAb immunocomplexes enormously expand solely $CD25^+$ cells. Thus, IL-2 immunocomplexes possess a broad spectrum of potential therapeutic applications like tumor immunotherapy, vaccination, autoimmune diseases or transplantology.