

Abstract

Interleukin 15 binds to its high-affinity receptor IL-15R α and forms stable IL-15/IL-15R α complexes. IL-15R α presents IL-15 *in trans* to target CD122/CD132 cells, where it initiates signal transduction. Interleukin 15 has an important role in the immune system as it – regulates the homeostatic proliferation of memory CD8⁺ T cells and is essential for the function, development and homeostasis of NK and NKT cells. Cell surface-expressed IL-15/IL-15R α complexes can be completely substituted by soluble recombinant IL-15/IL-15R α -Fc complexes, which have substantially higher biological activity in comparison to free IL-15 and behave as IL-15 superagonist. IL-15/IL-15R α -Fc complexes are thus a promising tool for some clinical use, i.e. cancer immune therapy, treatment of HIV or improvement of vaccination.