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**Ectopic Expression of IL-15RA in Naive T Cells using a Novel Method of Gene Delivery Enhances IL-15 Mediated T Cell Survival**

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In the current study, we address the question of the potential role of IL-15RA expression in unstimulated T cell survival by utilizing a new method to transfect naive T cells. With mRNA nucleofection we consistently observed 80%-95% transfection efficiency in both resting CD4+ and CD8+ T cells, with minimal cell death. In contrast to plasmid DNA transfection, with mRNA transfection we could obtain a nearly unimodal, homogenous level of protein expression that is easily manipulated by altering the amount of transfected mRNA. These properties made mRNA nucleofection an ideal choice for studying the effects of IL-15RA over expression on naive T cells. Using this technology, we were able to achieve variable levels of ectopic IL-15RA expression on naive CD8+ T cells which lead to variable levels of enhancement of IL-15 mediated T cell survival to cytokine withdrawal and glucocorticoid induced cell death *in vitro*. We further show that IL-15RA can directly (trans-presentation independently) enhance IL-15 mediated survival even in the absence of its cytoplasmic domain. Thus, RNA nucleofection has proven to be an effective method for gene delivery and function studies in primary resting T cells.