

**EFFECTS OF A NOVEL LONG-ACTING IL-7 ON T CELL RECONSTITUTION FOLLOWING ALLOGENIC HEMATOPOIETIC CELL TRANSPLANTATION**

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**Abstract:** Allogeneic hematopoietic cell transplantation remains a key option for patients with malignant and non-malignant disorders. Possible complications from allogeneic transplant include life threatening infections and graft vs. host disease (GvHD). Successful immune reconstruction is imperative to limit a number of these complications. IL-7 is a 25 kDa globular protein that is a crucial cytokine for lymphocyte survival and function. Previous studies have demonstrated the beneficial effect of exogenous IL-7 on T cell recovery and function. Furthermore rhIL-7 treatment following allogeneic HCT has been shown to have no significant toxicity with low incidence of GvHD (Perales et al. 2012). Here we present a rhIL-7 hyFc fusion protein (NT-I7 [efineptakin alfa]) that overcomes numerous limitations by being more potent, stable, and longer acting. We hypothesized that NT-I7 will improve T cell reconstitution following allogeneic HCT.