These studies demonstrate the feasibility of using a low dose of 131-I CD45 targeted lymphodepletion to create suitable hematopoietic environment for incoming CAR-T cells. Depletion of immune suppressive cell populations that may hinder activation of CAR-T cells; (3) depletion of macrophages that may secrete cytokines implicated in CRS and neurotoxicity, and (4) potential anti-tumor effect on CD45-bcl2 cancer cells.

Methods

For lymphodepletion studies in mice:
- Female adolescent C57Bl/6 mice were injected subcutaneously with OVA expressing CD45+ E.G7-OVA lymphoma tumor cells until 100mm3 tumor volume reached. Approximately 7 days post tumor cell injection, mice were treated with 131-I CD45.
- Four days post lymphodepletion, activated CD+ T cells isolated from CD45.2 OT-I mice were transplanted into mice.
- Tumor volume and body weight were monitored, and blood and spleen were assessed for immune cell subsets and presence of engrafted 131-I CD45 T cells.

For lymphodepletion studies in OT-I mouse model:
- Female adolescent C57Bl/6 C57D1.1 mice were injected subcutaneously with OVA expressing CD45+ E.G7-OVA lymphoma tumor cells until 100mm3 tumor volume reached. Approximately 7 days post tumor cell injection, mice were treated with 131-I CD45.
- Four days post lymphodepletion, activated CD+ T cells isolated from CD45.2 OT-I mice were transplanted into mice.
- Tumor volume and body weight were monitored, and blood and spleen were assessed for immune cell subsets and presence of engrafted 131-I CD45 OT-I cells.