

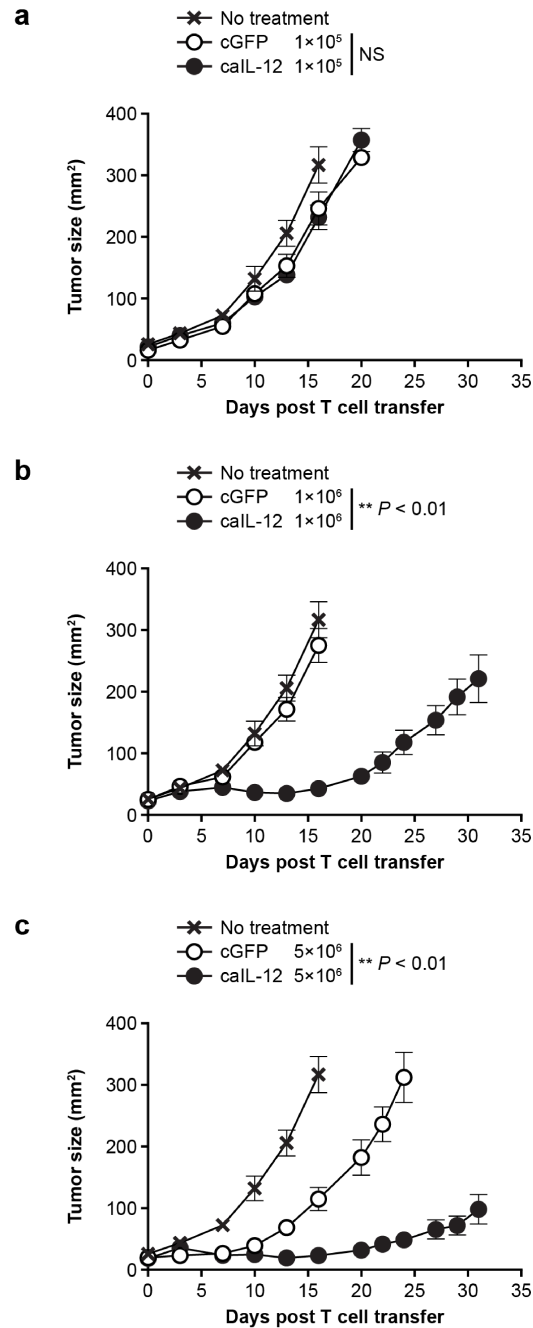
Zhang, et al. Supplementary Table 1

**Table S1.** Sequence of transmembrane domains

<b>Murine B7 TM</b>	PPEDPPDSKNTLVLFGAGFGAVITVVVIVVVIKCFCKHRSCFRRNEASRETNNSLTFGPEEALA EQTVFL
<b>Murine CD28 TM</b>	IEFMYPYPPYLDNERSNGTIIHIKEKHLCHTQSSPKLFWALVVVAGVLFYGLLVTVALCVIWTN SR
<b>Murine CD8 TM</b>	TTTKPVLRTSPVHPTGTSQPQRPEDCRPRGSVKGTGLDFACDIYWAPLAGICVALLSLIITL ICYHRSR
<b>Human B7 TM</b>	DNLLPSWAITLISVNGIFVI CCLTYCFAPR CRERRRNERL RRESVRPV

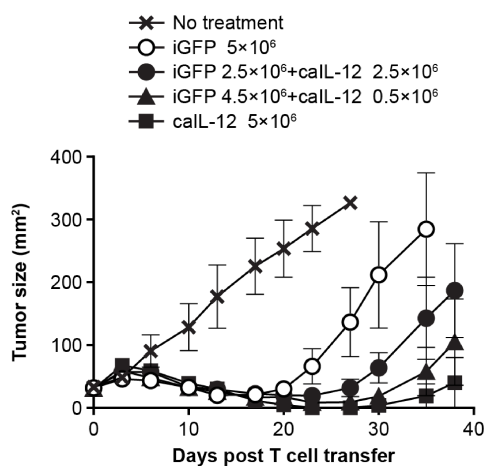
## Zhang, et al. Supplementary Figure 1

**Figure S1. Anchored IL-12 improved tumor treatment in a dose dependent manner.** Mice with established B16 tumors were treated with pmel-1 cells that were transduced with the vectors indicated. All mice received 550 cGy whole body radiation before cell infusion. Mice received  $1 \times 10^5$  (a),  $1 \times 10^6$  (b) or  $5 \times 10^6$  (c) cells by tail vein injection. Serial tumor measurements were obtained after treatment. N = 5 mice per group. Error bar represent the standard error of the mean. *P*-values represent matched-pair, repeated measure, 2-way ANOVA test between groups indicated in figure legends.



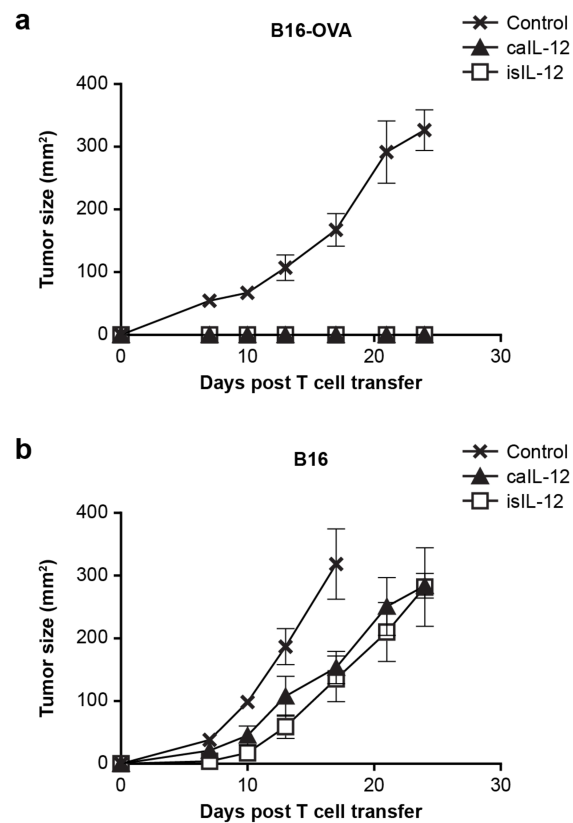
## Zhang, et al. Supplementary Figure 2

**Figure S2. Increased administration of anchored IL-12 OT-I cells enhanced tumor regression.** Mice with established B16-OVA tumors were treated with OT-I cells that were transduced with the vectors indicated. All mice received 550 cGy whole body radiation before cell infusion. Mice received a mixture of calL-12–modified OT-I cells and non-modified OT-I cells at the ratios indicated. Serial tumor measurements were obtained after treatment. N = 5 mice per group. Error bar represent the standard error of the mean.



## Zhang, et al. Supplementary Figure 3

**Figure S3. Anchored IL-12 induction of long-term tumor specific immunity.** Mice pretreated by OT-I T cells that were transduced with the vectors indicated in the figure legend or age matched untreated mice (control) were challenged with  $1 \times 10^6$  B16-OVA tumors (a) or B16 tumor (b) by subcutaneous injection. Serial tumor measurements were obtained after tumor injection. N = 5 mice per group. Error bar represent the standard error of the mean.



Zhang, et al. Supplementary Figure 4

**Figure S4. iaIL-12 was induced by T cell specific activation.** Human T cells were transduced to express the construct indicated above each histogram. UT, untransduced cells. Two days post transduction, the T cells were activated by CD3/CD28 Dynabeads at 1:1 ratio for 16 hours. The IL-12 and CD8 surface expression was detected by flow cytometry. Gating is on live lymphocytes. The data represents one of two donors.

