## **Supplemental Figure S1**



**Supplemental Figure S1. Comparison of cytotoxicity by WT-FL vs MUT-FL stimulated PBMCs obtained from different donors.** PBMCs from five healthy donors were cultured *in vitro* in medium either without (Medium) or with 1 nM WT-FL or MUT-FL complex. After 72 hrs of culture, the PBMCs were harvested, re-adjusted in numbers and tested at 5:1 E:T ratio in an *in vitro* cytotoxicity assay against M14 cells, either in the absence (Medium) or presence of 0.01 ug/mL hu3F8 or hu3F8-BsAb. Results are presented as percent of tumor cell lysis (Mean ± SEM, n=3).

## **Supplemental Figure S2**



Supplemental Figure S2. Effect of WT-FL vs. MUT-FL stimulation on expression of inhibitory markers on NK cells or T cells. (A) Surface expression of inhibitory markers on NK cells (KIR2DL1, KIR3DL1 and NKG2A). PBMCs from healthy donors (n=5) were cultured in vitro in medium either without (Medium) or with 1 nM WT-FL or MUT-FL complex. At 24, 72 and 168 hr cells were tested by flow cytometry for expression of different surface markers. Analysis is based on gating on T cells (CD3<sup>+</sup>CD56<sup>-</sup> lymphocytes) or NK cells (CD3<sup>-</sup>CD56<sup>+</sup> lymphocytes). Results are presented as geo-MFI ratio of the marker of interest, individual for each donor. Lines represent Mean (n=5) of those 5 individual values. (B) Surface expression of inhibitory/exhaustion markers on T cells (PD1, TIM3 and LAG3). Same condition as in panel (A) except one healthy donor was used in this case, with each data point was done in duplicates (Mean + SD, n=2). (C) Tregs proliferation assay. Same condition as in panel (A) except one healthy donor was used in this case, with each data point was done in duplicates (Mean + SD, n=2). Cell numbers were calculated by multiplying the total live cell count in each well (8x10<sup>6</sup> cells per well at time 0) and percentage of each gated population from FACS. \* p < 0.01 when WT-FL treatment groups were compared with MUT-FL treatment groups at indicated time point, respectively.