

Supplemental Figure Legends

Supplemental Data Figure 1- **A.** Representative FACS plots of B16 cells stained with Annexin V/PI following 48 h culture with CD4⁺ T cells isolated from day 10 tumor-bearing mice. **B.** Bright field images of CD4⁺ T cells from day 10 B16 tumor-bearing mice incubated for 48 h with B16 tumor cells at 1:2 ratio (x200), n=3.

Supplemental Data Figure 2- **A.** Expression levels of FcγRI on tumor-infiltrating CD4⁺ T cells (blue) and myeloid cells (red). **B.** Co-expression of FcγR on tumor-infiltrating CD4⁺ T cells **C.** Confocal images of day 10 B16 tumors (x800). **D.** Confocal images of day 12 4T1 tumor sections (x800).

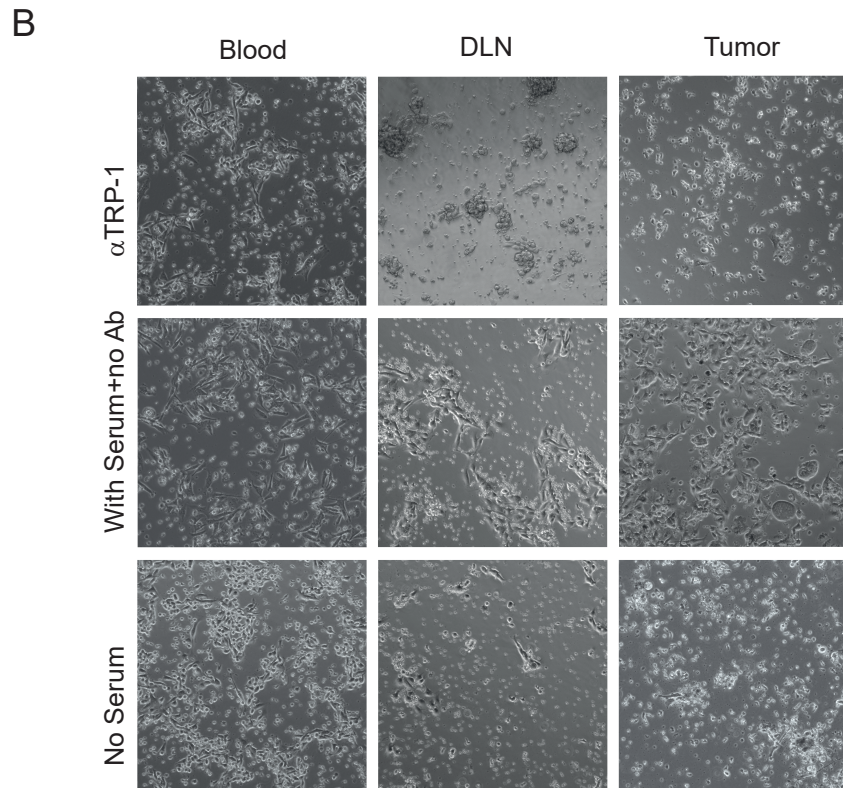
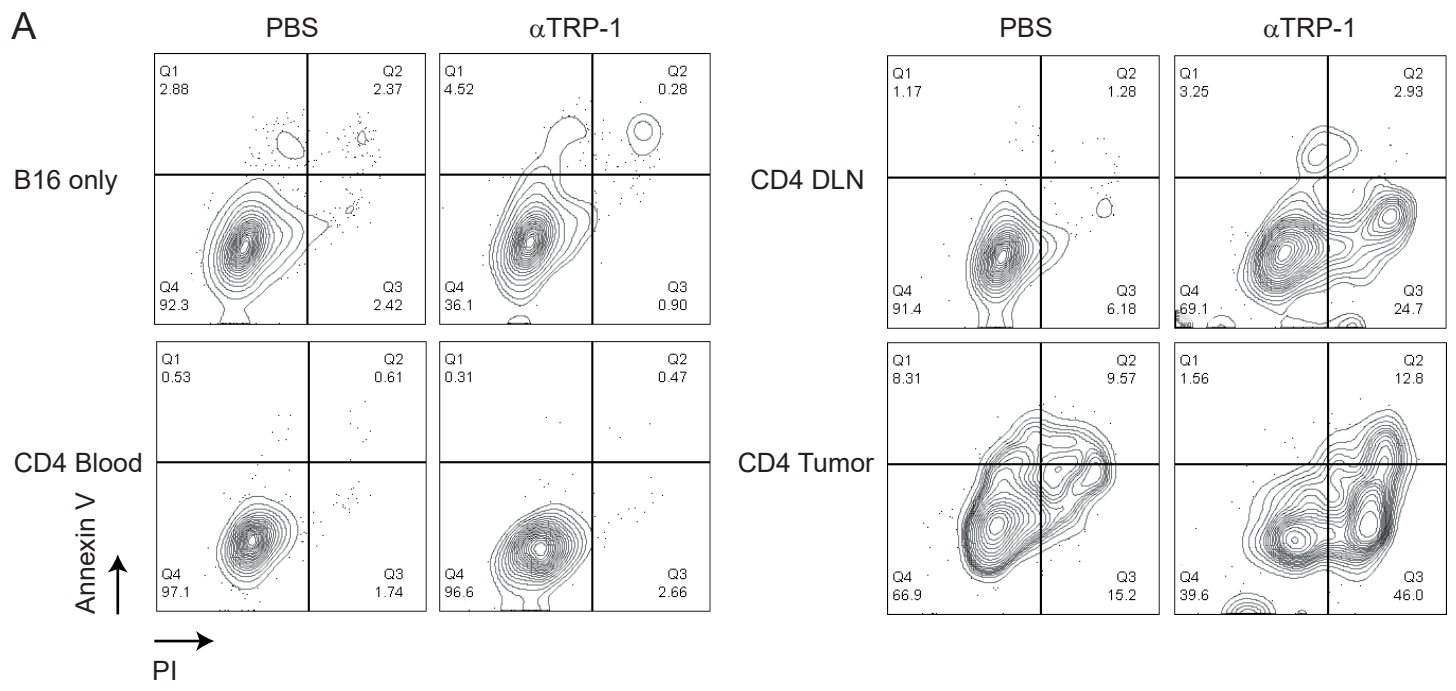
Supplemental Data Figure 3- **A.** Percentages of FcγR-expressing CD4⁺ T cells from various organs of naïve male and female mice. **B.** Confocal images of CD4⁺ T cells immediately following their sorting from the spleen of naïve mice. **C.** Non-reduced Gel-PAGE following overnight digestion of TA99 antibodies with pepsin (right lane). Confocal microscopy of splenic FcγRI⁺ CD4⁺T cells incubated for 48 h with B16 and pepsin-digested TA99. **D.** Confocal microscopy of splenic FcγRI^{neg} CD4⁺ T cells incubated with TA99 antibodies (left panel) and of FcγRI⁺ CD4⁺T cells incubated with anti-IFNγ blocking antibodies (right panel). **E.** Confocal microscopy Wassabi-labeled B16 cells stained with antibodies against TRP1. **F.** FACS analysis of B16 cells stained anti-MHCII antibodies.

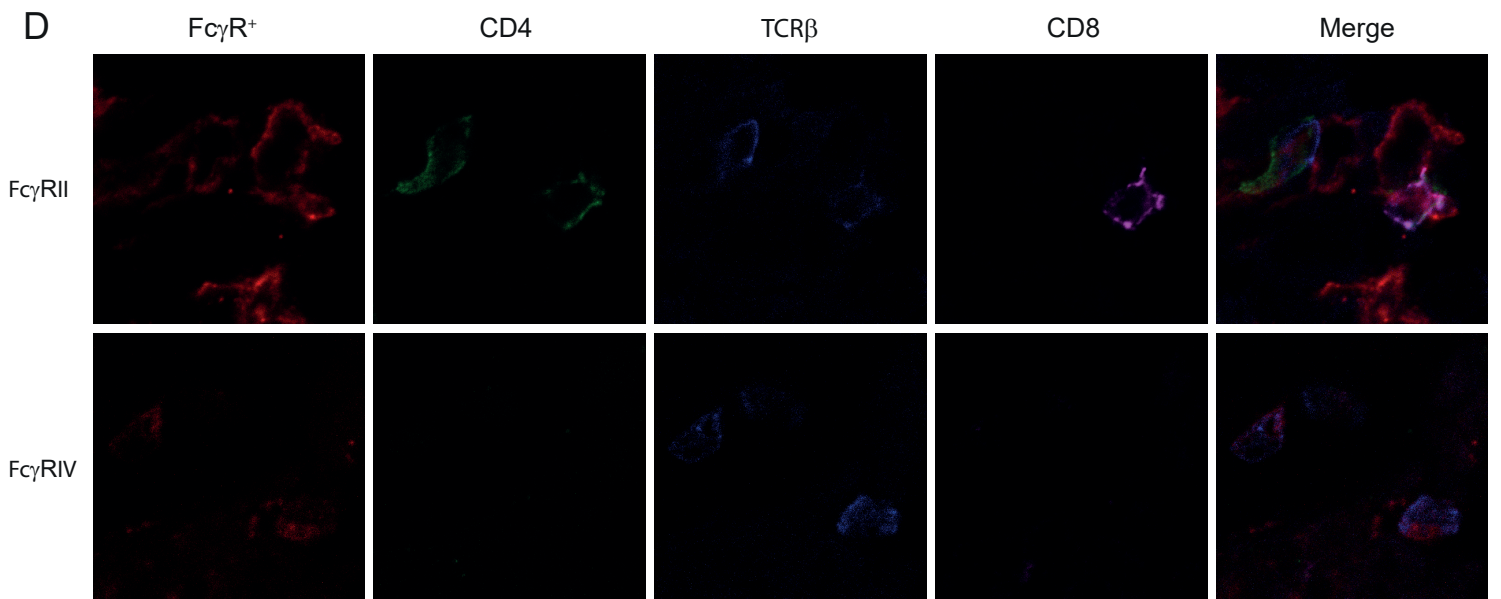
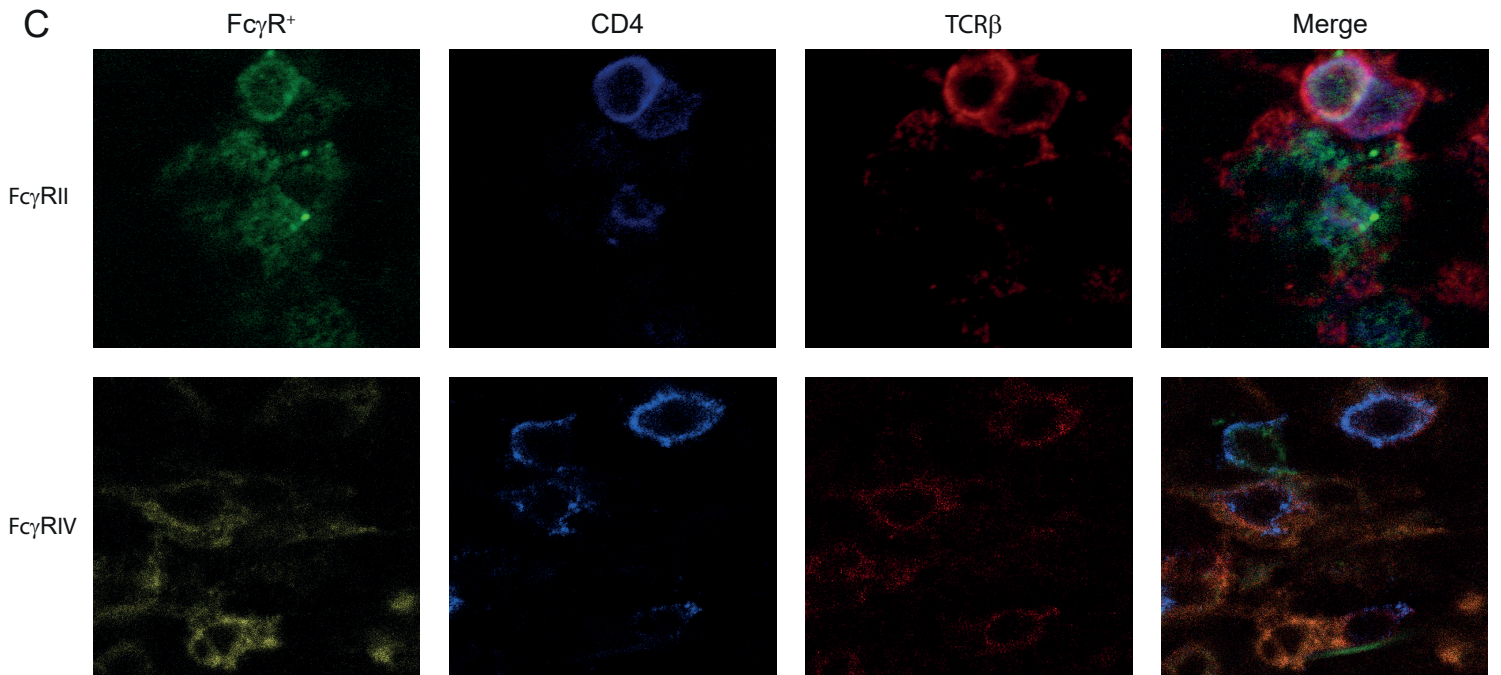
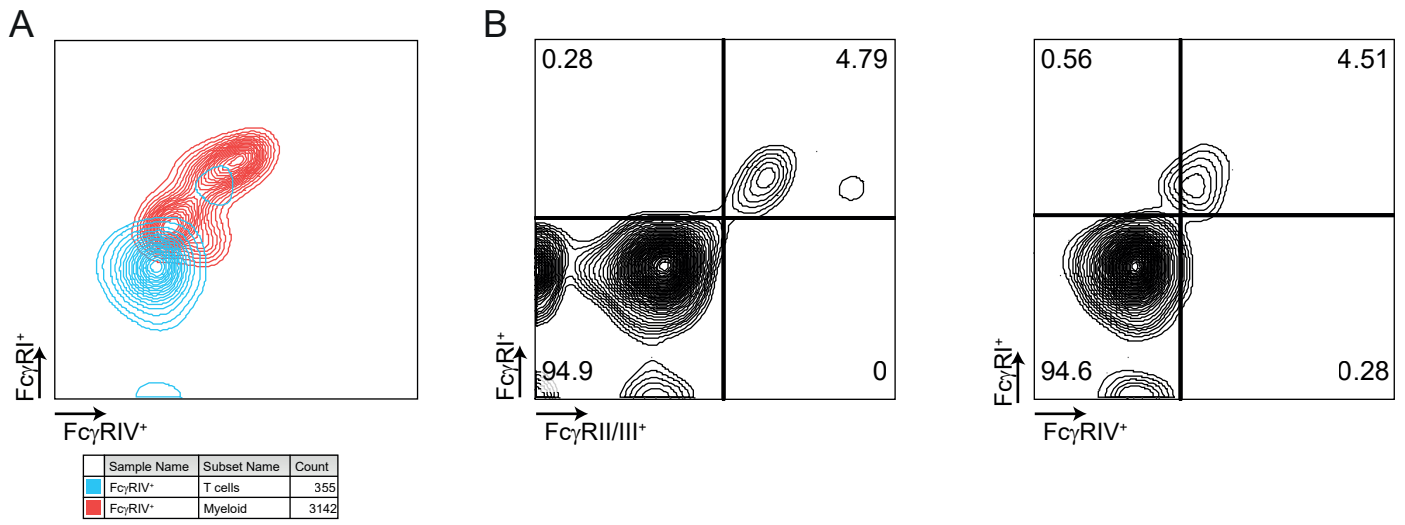
Supplemental Data Table 1- A list of CDR3 TCRVβ amino acid sequences of splenic CD4⁺ T cells with or without FcγRI expression.

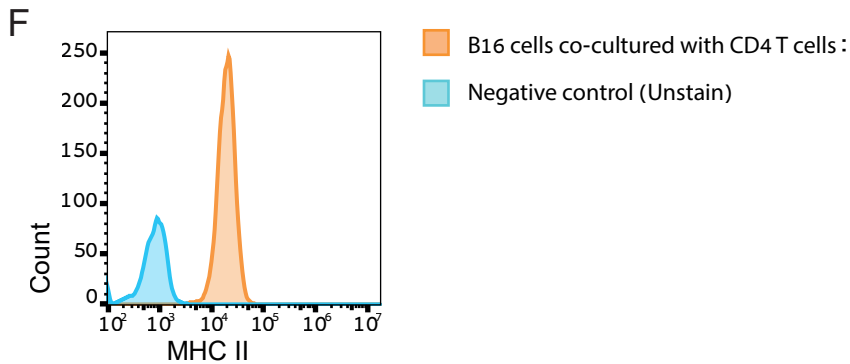
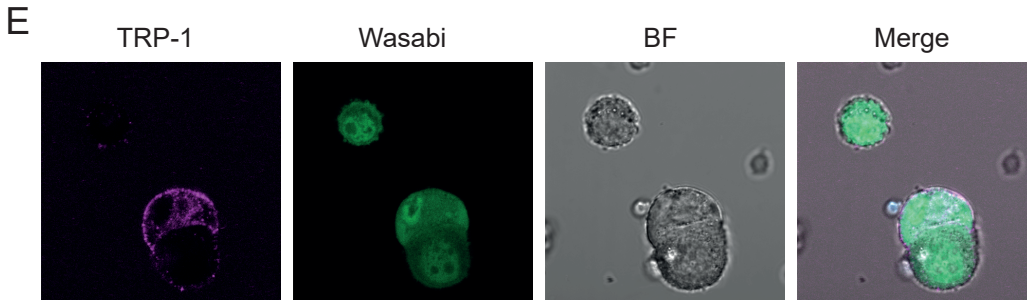
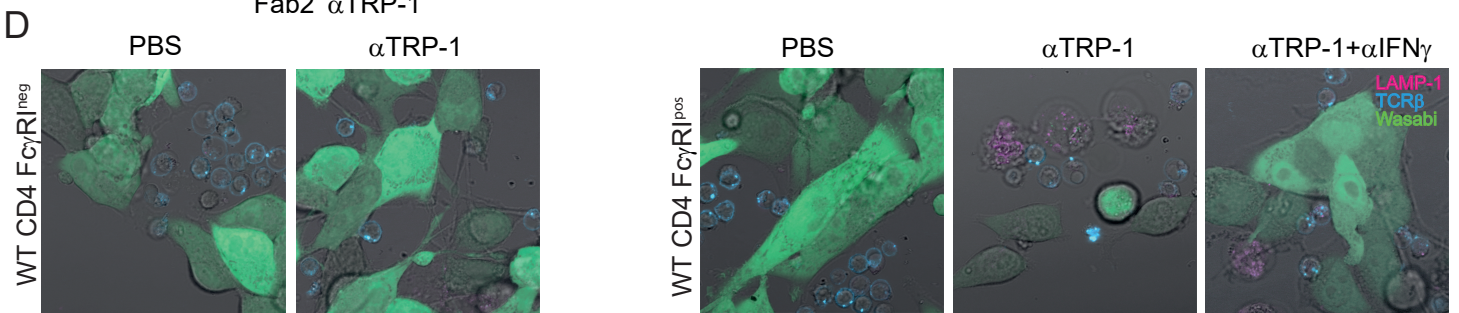
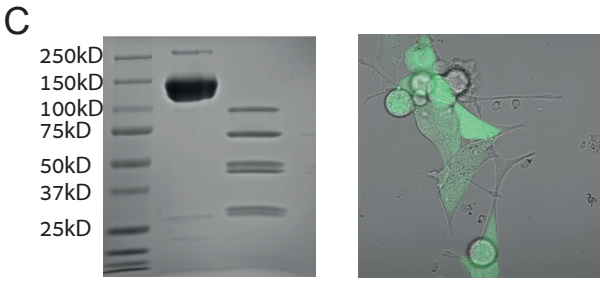
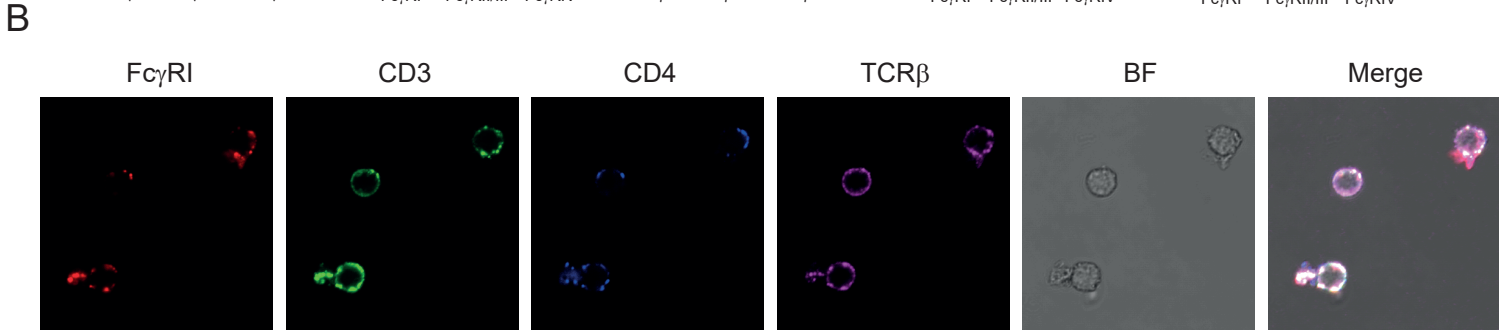
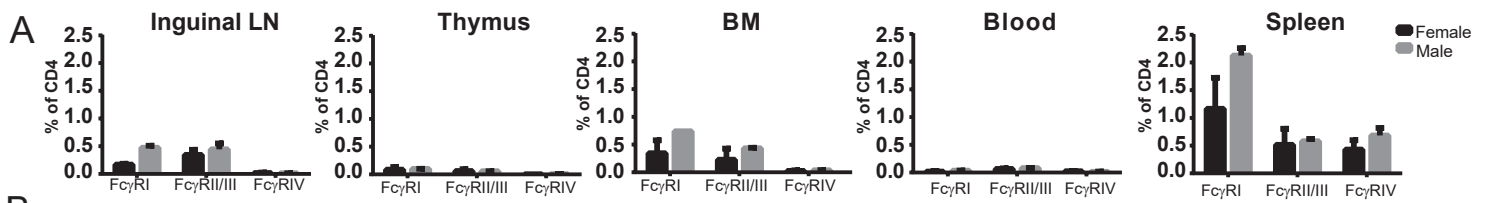
Supplemental Data Table 2- A list of genes found in CD4⁺ T cells with or without FcγRI expression that were found in mass spectrometry analysis

Supplemental Data Figure 4- **A.** Representative FACS analysis of infected CD4⁺ T cells prior to their sorting. **B.** Confocal images of infected CD4⁺ T cells incubated for 48 h with B16 cells (x800). **C.** Representative FACS plots of B16 cells stained with Annexin V/PI following 48 h culture with infected CD4⁺ T cells (n=3).

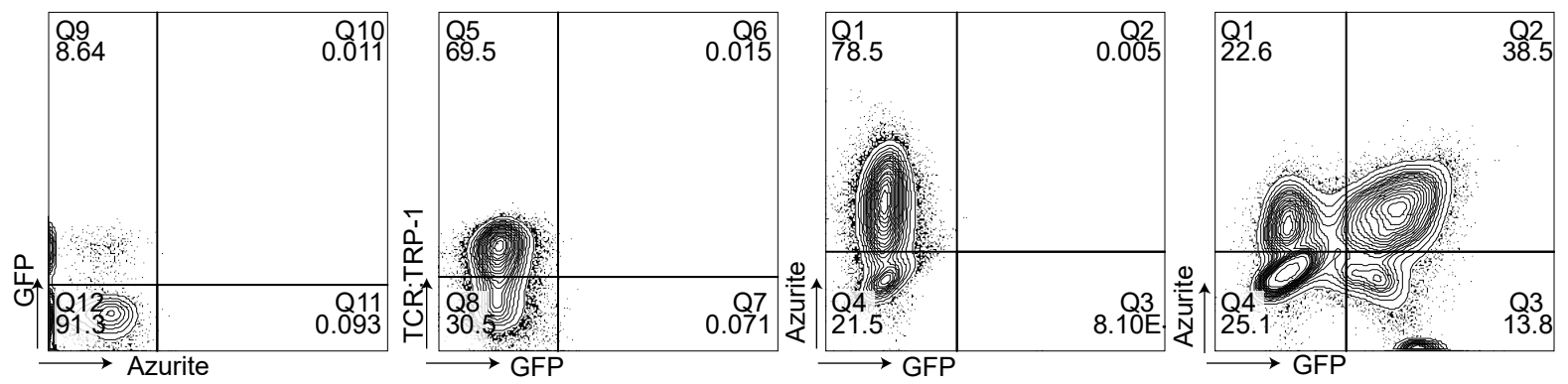
Supplemental Data Figure 5- **A.** Histological sections of stage III melanoma tumor. **B.** Histological sections of stage III bladder cancer.



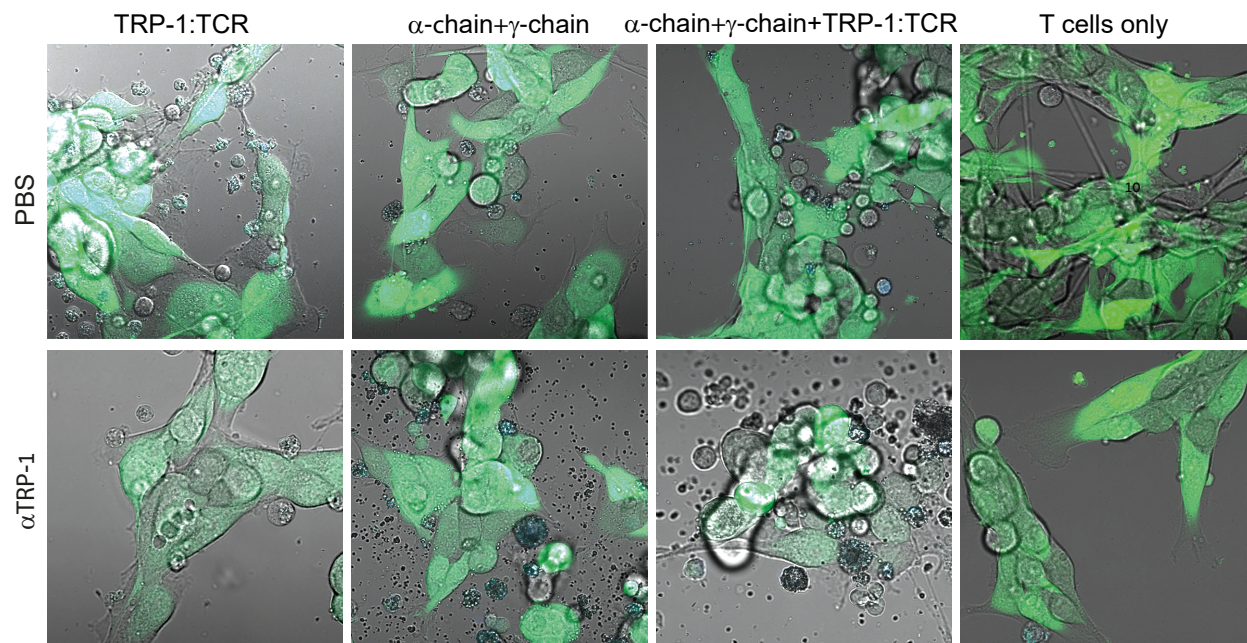




A



B



C

