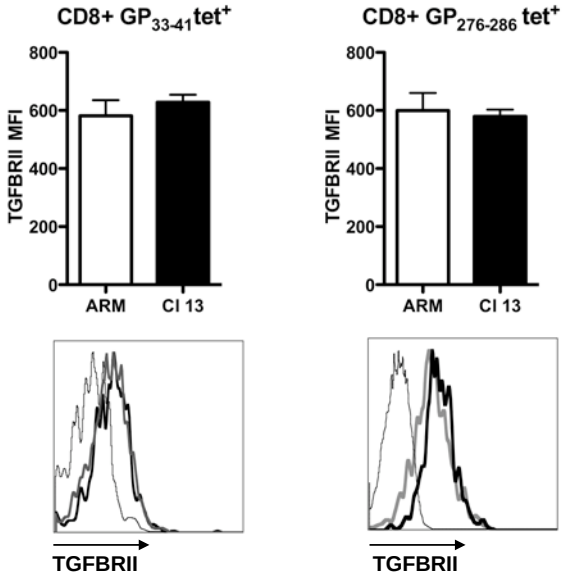
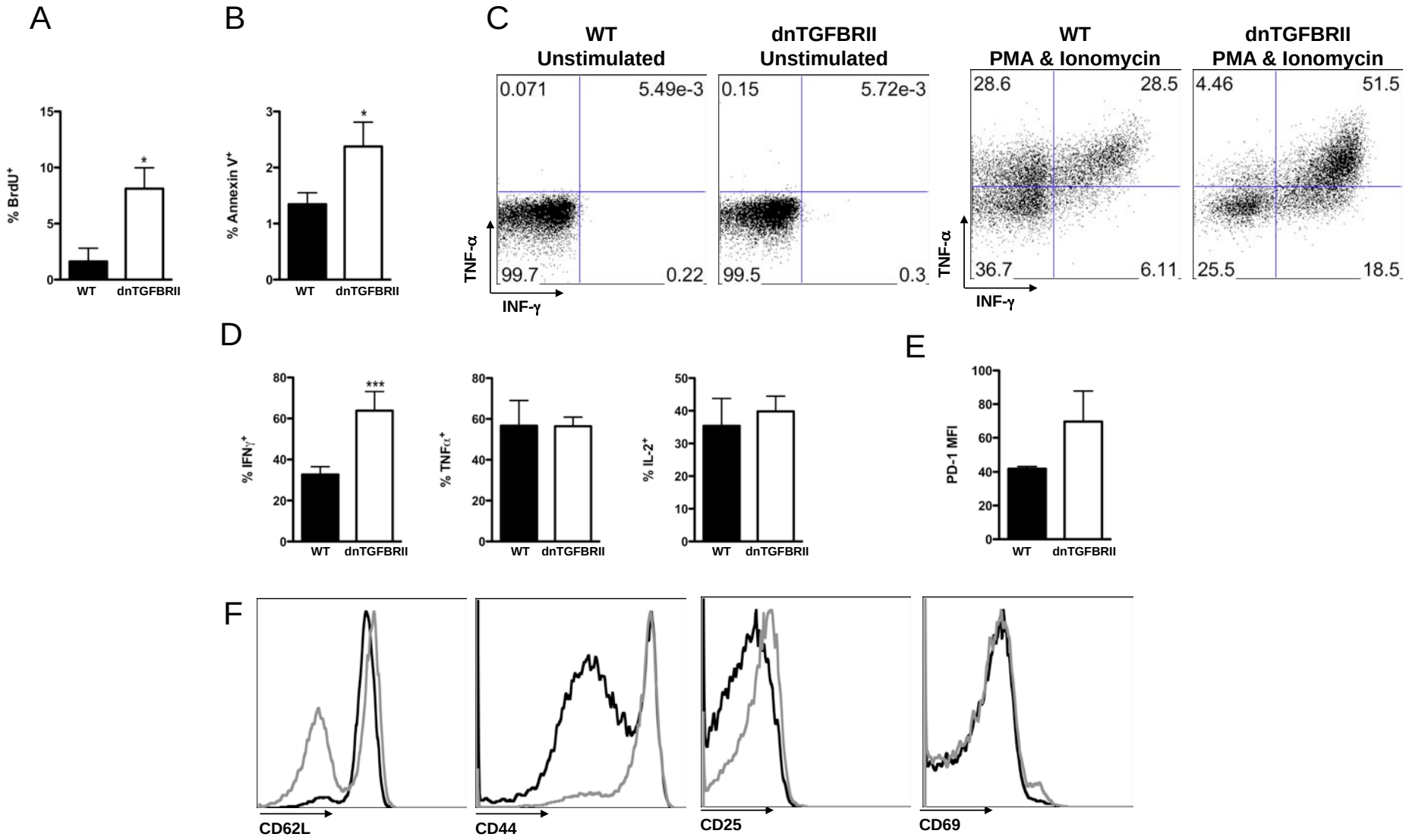
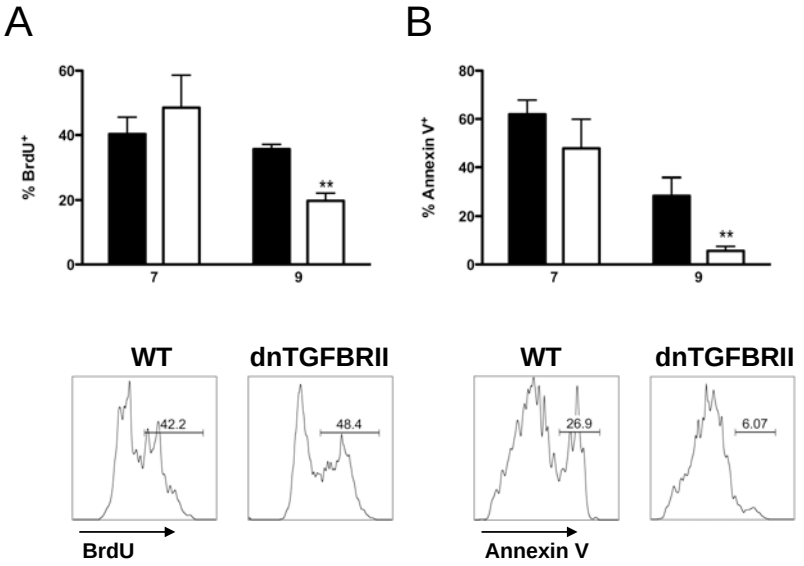


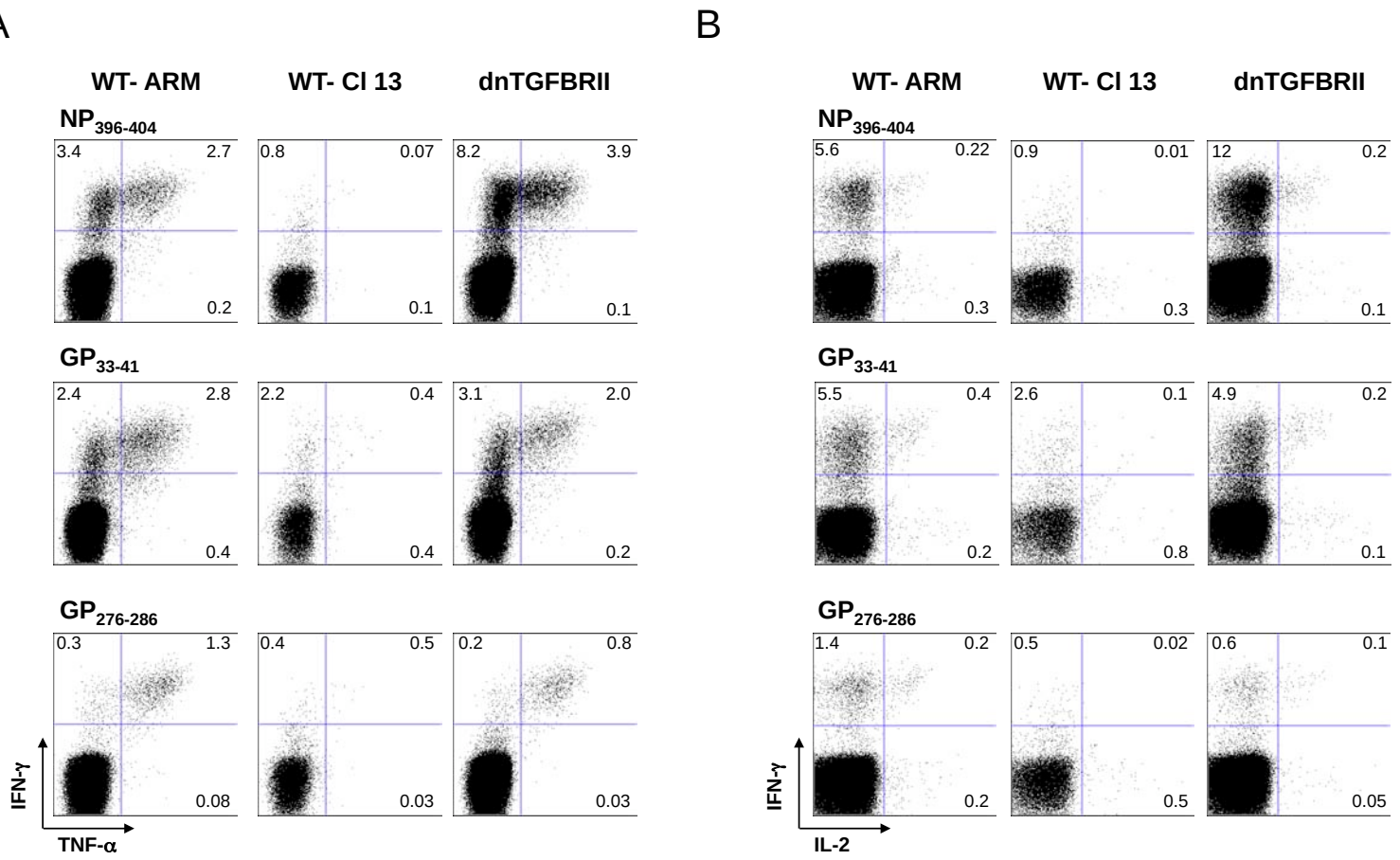
Supplementary Figure 1. TGFBRII expression on virus-specific T cells during LCMV infection. C57BL/6 mice were infected with LCMV ARM (grey histograms) or Cl 13 (black histograms) and splenocytes obtained at day 9 pi. TGFBRII expression was quantified by FACS in $D^b/GP_{33-41}{}^+CD8^+$ and $D^b/GP_{276-286}{}^+CD8^+$ cells. Bar graphs indicate the average TGFBRII MFI ± sd. Histograms depict a representative mouse per group. Thin line, Isotype control. Data are representative of two independent experiments with three to six mice per group.



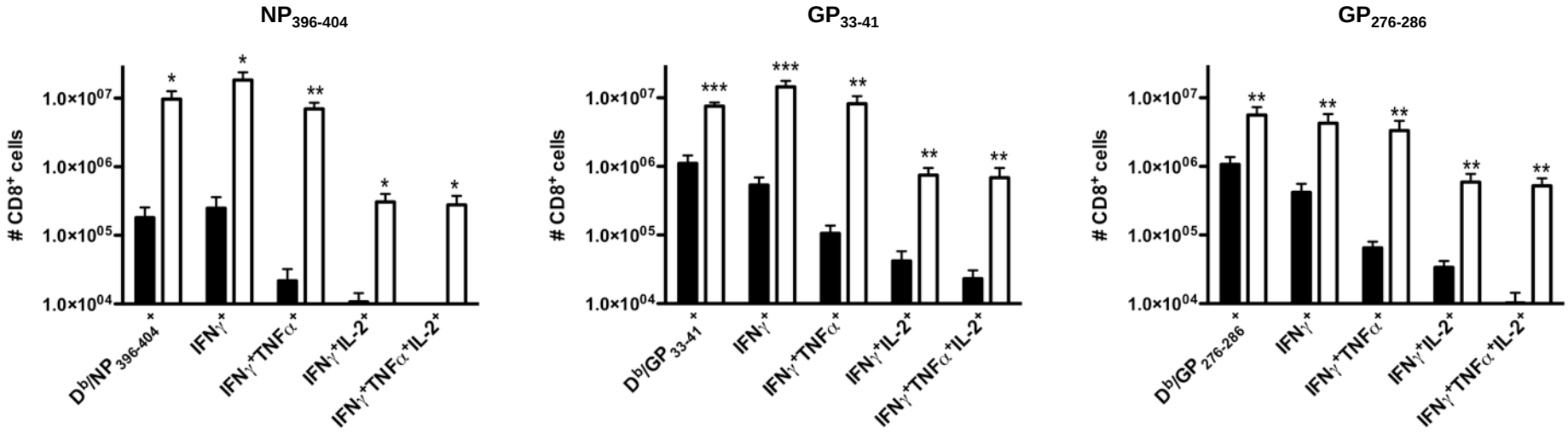
Supplementary Figure 2. Pre-infection profile of total CD8 T cells from dnTGFBRII. Splenocytes were obtained from WT (black bars and black histograms) or dnTGFBRII (white bars and grey histograms) mice at ~7 weeks of age. Total CD8 T cell were analyzed by FACS to determine BrdU incorporation (A), Annexin V staining (B) Cytokine production with and without PMA-ionomicyn stimulation (C and D), expression of PD-1 (E), CD62L, CD44, CD25 and CD69 (F). Bar graphs depict the average frequency ± sd. Histograms and dot plots display a representative mouse per group and numbers indicate the frequency of cells within regions. Results are representative of two independent experiments with four mice per group each. (WT *vs* dnTGFBRII, **p*<0.05 and ***p*<0.005)



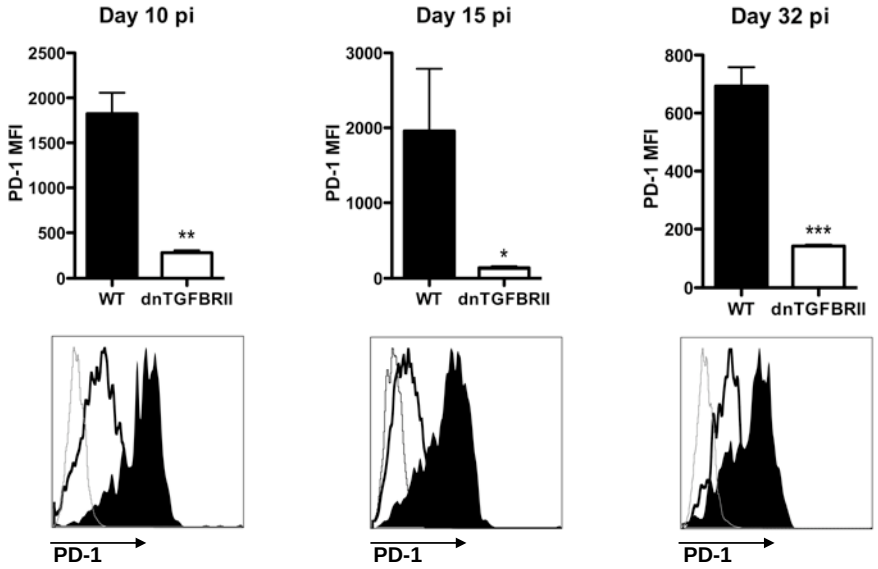
Supplementary Figure 3. Proliferation and survival of LCMV $GP_{276-286}$-specific CD8 T cells from dnTGFBRII. WT (black bars) or dnTGFBRII (white bars) mice were infected with LCMV Cl 13 and splenocytes obtained at day 7 and **9 pi. BrdU incorporation (A) and Annexin V staining (B) of $H2D^b$/ $GP_{276-286}$ tetramer$^+$ $CD8^+$ T cells were determined. Bar graphs depict the** average frequency of positive cells ± sd. Histograms display a representative mouse per group and numbers indicate the frequency of cells within regions. Results are representative of two independent experiments with three or four mice per group each. (WT *vs* dnTGFBRII, ***p*<0.005)



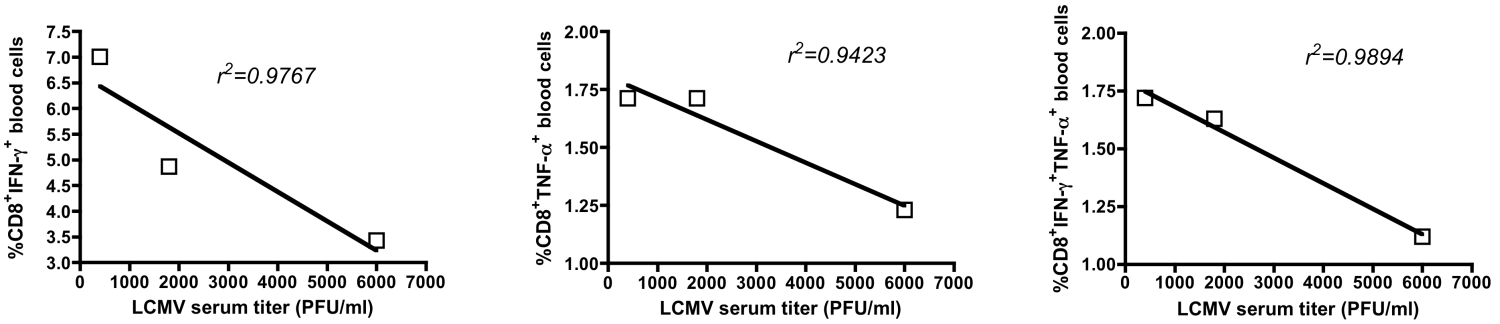
Supplementary Figure 4. Cytokine production in WT and dnTGFBRII mice during LCMV ARM and Cl 13 infection. WT and dnTGFBRII mice were infected with LCMV ARM or Cl 13 as indicated and splenocytes obtained at day 9 pi. Cells were stimulated with $NP_{396-404}$, GP_{33-41} and $GP_{276-286}$ LCMV peptides and production of IFN-γ, TNF-α (A) and IL-2 (B) by CD8 T cells was analyzed. Dot plots display a representative mouse per group for each peptide. Numbers indicate the % cells within the indicted gates. Results are representative of four mice per group.



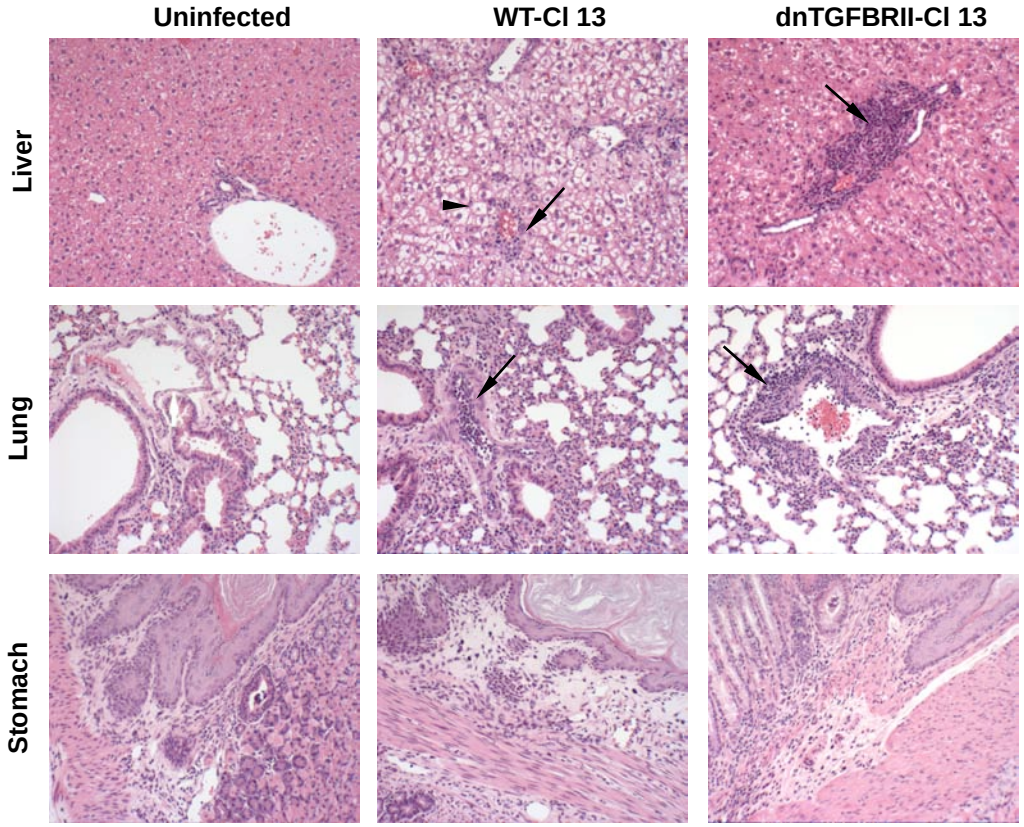
Supplementary Figure 5. Numbers of epitope-specific and cytokine producing CD8 T cells in dnTGFBRII mice. WT (black bars) or dnTGFBRII (white bars) mice were infected with LCMV Cl 13 and splenocytes obtained at day 9 pi. Virus specific $CD8^+$ T cells were stained with $D^b/NP_{396-404}$, D^b/GP_{33-41} and $D^b/GP_{276-286}$ tetramers or stimulated with the corresponding LCMV peptides to assess IFN-γ, TNF-α and IL-2 production. Numbers ± sd of total $tetramer^+$ or cytokine producing $CD8^+$ cells per spleen are depicted. Results are representative of three independent experiments with three or five mice per group each. (WT *vs* dnTGFBRII, **p*<0.05, ***p*<0.005 and ****p*<0.0005)



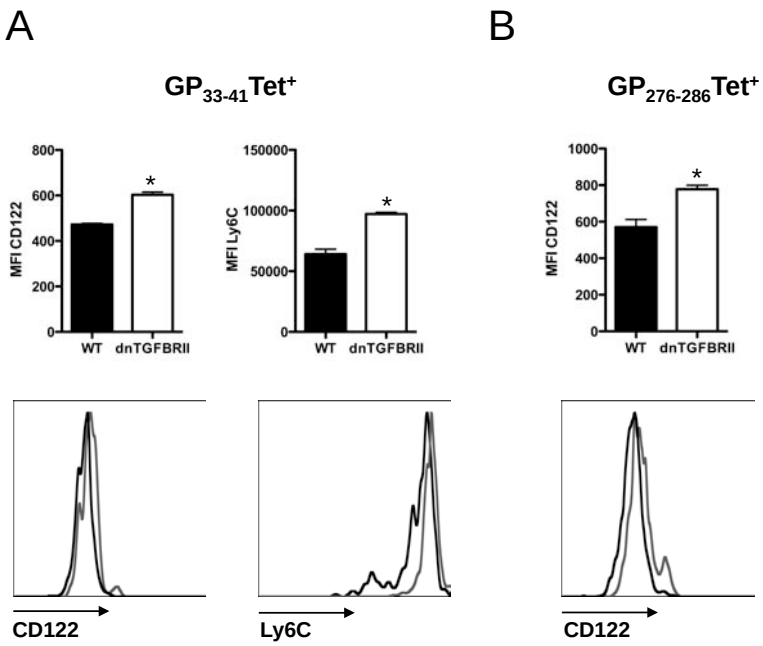
Supplementary Figure 6. PD-1 expression in virus specific CD8 T cells from dnTGFBRII mice. WT (black bars or histograms) or dnTGFBRII (white bars or histograms) mice were infected with LCMV Cl 13. PD-1 expression was determined in $D^b/GP_{33-41}{}^+CD8^+$ blood cells at the indicated time points pi. Bar graphs indicate the average ± sd of PD-1 MFI. Histograms depict a representative mouse per group. Dashed line, unstained controls. B-C) PD-1, CD44 and CD62L expression in D^b/GP_{33-41}. Results are representative of two independent experiments with three to four mice per group each. (WT *vs* dnTGFBRII, *p<0.05, **p<0.005 and ***p<0.0005)



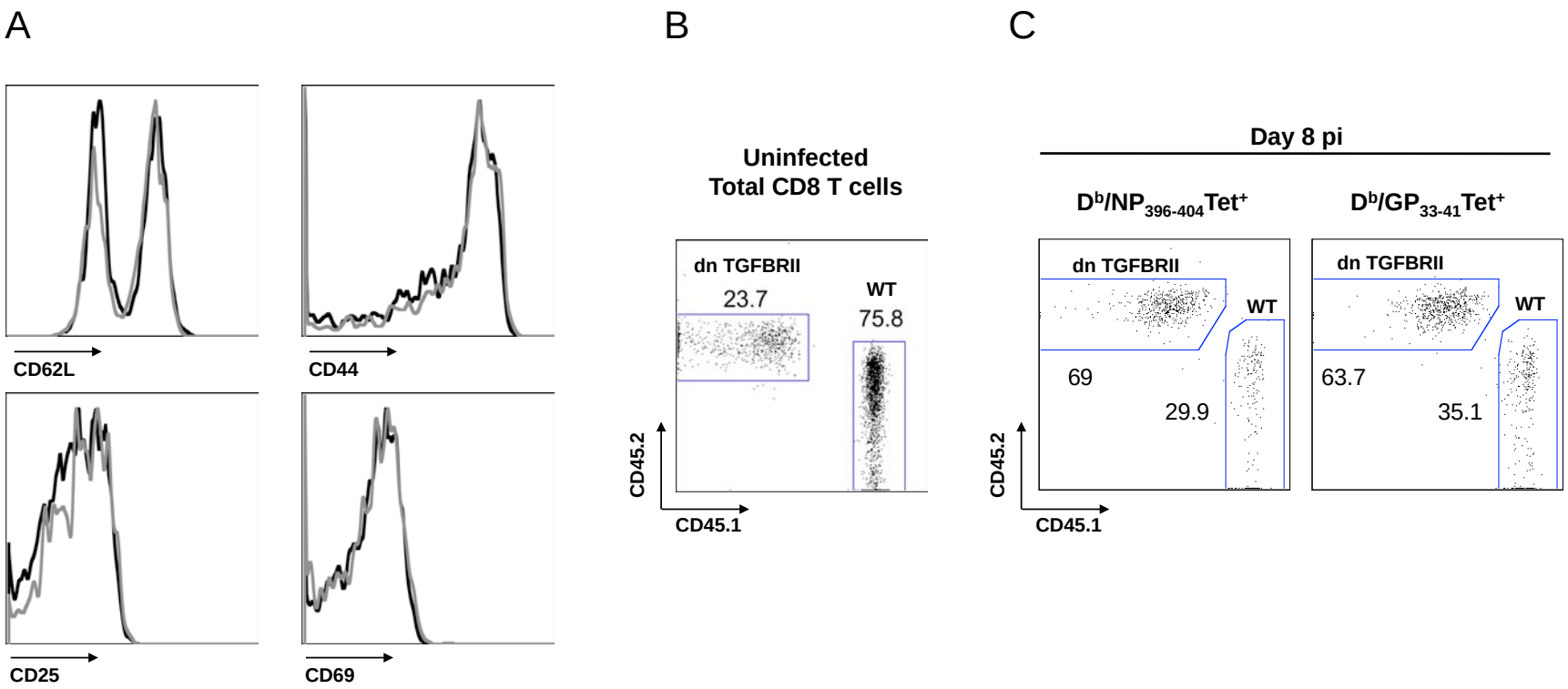
Supplementary Figure 7. Enhanced CD8$^+$ T cell effector function relates to LCMV clearance. Negative linear correlation between blood LCMV titers on day 8 pi and the frequency of cytokine producing CD8$^+$ T cells upon GP_{33-41} peptide stimulation at the same time point in dnTGFBRII mice. Symbols represent individual mice.



Supplementary Figure 8. Histology of Liver, Lung and Brain during virus infection of dnTGFBRII mice. WT (black bars) or dnTGFBRII (white bars) mice at ~7 weeks of age were infected with LCMV Cl 13 and tissues obtained at day 10 pi. A) Lung and stomach were stained with hematoxylin-eosin and processed for histopathological analysis. Long arrows point towards mononuclear cell infiltrates, short arrows point to vacuolated hepatocytes. 200x magnification is shown.



Supplementary Figure 9. Memory markers in virus specific CD8 T cells from dnTGFBRII mice. WT (black bars or histograms) or dnTGFBRII (white bars or grey histograms) mice were infected with LCMV Cl 13. CD122 and Ly6C expression were determined where indicated in $D^b/GP_{33-41}{}^+CD8^+$ (A) and $D^b/GP_{276-286}{}^+CD8^+$ (B) blood cells after 2 months pi. Bar graphs indicate the average MFI ± sd. Histograms depict a representative mouse per group. Results are representative of two experiments with three to four mice per group. (WT *vs* dnTGFBRII, **p*<0.05)



Supplementary Figure 10. Dissociation among pre-infection activation status and post-infection enrichment of dnTGFBRII CD8 T cells. Blood samples from 6-week-BM chimeras were processed to analyze expression of CD62L, CD44, CD25 and CD69 activation markers (A) as well as CD45.1 and CD45.2 (B) in total CD8 T cells from CD45.1 WT (black histogram) or CD45.2 dnTGFBRII (grey histogram) origin. C) BM-chimeras were infected with LCMV Cl 13 and spleens processed to determine the percentages of WT and dnTGFBRII cells within $D^b/NP_{396-404}$ and D^b/GP_{33-41} tetramer$^+$ cells at day 8 pi. Histograms and dot plots display a representative mouse and numbers indicate the frequency of cells within regions. Results are representative of two mice per group.